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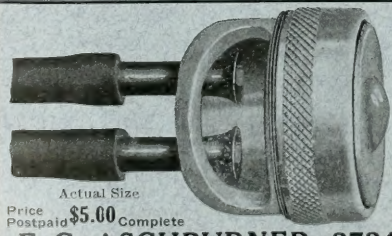

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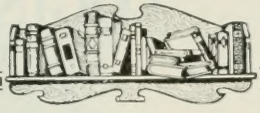

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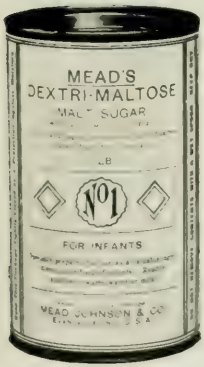

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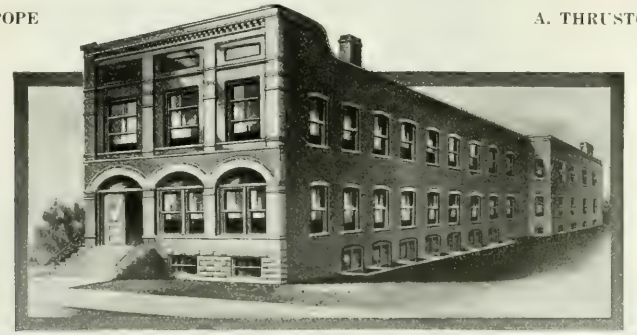

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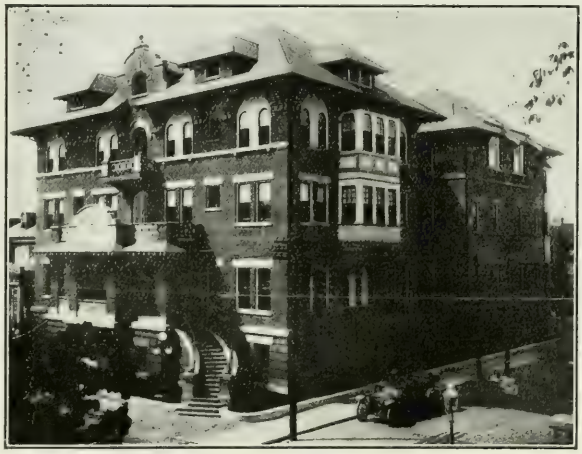

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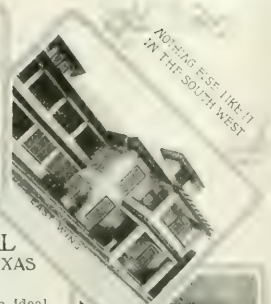

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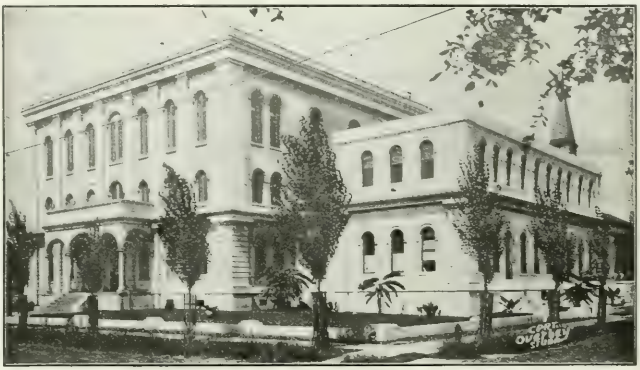

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JOURNAL OF THE SOUTHERN MEDICAL ASSOCIATION

PUBLISHED MONTHLY AT BIRMINGHAM, ALABAMA

Volume XII OCTOBER 1919 Number 10

MEDICINE

INTERNAL DISEASES, PEDIATRICS, NEUROLOGY, DIAGNOSTIC METHODS, ETC.

TREATMENT OF MENINGOCOCCIC INFECTIONS

BY W. W. HERRICK, M.D.,
Assistant Professor of Medicine, College of Physicians and Surgeons,
(Columbia University)
New York, N. Y.

This article is written for the general practitioner in response to a request for a practical summary of both the older and more recent methods of treatment.

The mortality of meningococcic meningitis has declined from the 70 to 90 per cent. reported in the early epidemics to the 15 to 30 per cent. of the average of the more recent visitations. This decline is apparently not due to any diminution in the virulence of the infection, but is a direct result of more effective treatment and of specific serum treatment in particular.

In an experience with some 340 cases, I have been impressed with the tendency to focus entire attention upon the serum treatment of the disease to the frequent neglect of more general measures. It is, therefore, planned in this summary of our experience in the treatment of meningococcic infections first of all to discuss the more general non-specific methods of treatment which have proved useful.

It is to be kept in mind that the patient is irritable, hyperesthetic and that all strong sense impressions are resented because they are disturbing and even painful. A quiet, easily-darkened room with light that does not shine in the patient's face should be secured. The patient must not be spoken to unnecessarily nor touched without reason. He must be allowed to lie quietly in the position of greatest comfort in order that he may conserve the last fraction of his energy, a fraction that may be the decisive factor in what is so often a close struggle.

To facilitate lumbar punctures and general care, the bed should be single, rather narrow and high. The patient is usually more comfortable with a single small pillow or often with none at all. The greatest care should be taken from the outset to harden the skin against possible bed sores. The patient should be bathed twice daily with tepid water followed by alcohol and powder. Cold baths and sponges to reduce temperature are not ordinarily required and, like other strong sensory impressions, are best avoided in meningitis. An initial purgative is perhaps desirable. The bladder should be watched carefully as retention of urine is very frequent in the early stages of the disease and is too often overlooked. Catheterization may be necessary and should be carried out with the strictest asepsis. To a catheterized adult patient hexamethylenamin 0.5 gram should be given four times daily for three days with a large quantity of water.

The early stages of meningococcic meningitis are hours of agony. In many cases extreme irritability, headache and apprehension demand attention. No drug meets this phase of the disease so completely as morphia, a surprising amount being tolerated. An adult may be given one-sixth grain as often as is required. Usually not

more than two or three doses are necessary. Morphia is also of value in tending to prevent serious immediate serum effects. Chloral hydrate grains XV or XX (by rectum) with or without sodium bromid, grains XL, may be given two or three times each twenty-four hours as an adjunct to morphia, if necessary. An ice cap on the head is often grateful and helps control headache. It need not, however, be used for any other purpose, as it probably has no specific effect upon the disease process.

DIET

This is of great importance. In many cases during the acute phases of the disease, it is difficult to persuade patients to take an adequate amount of food. This should be insisted upon, however, unless the patient is exhausted by the efforts. The diet need not be entirely of fluids. Nourishment should be given at least every three hours. In addition to such liquids as milk, broths or cocoa, soups thickened with flour, rice or other cereal gruel, any cooked cereal, milk toast, ice cream, custard, junket or other simple pudding may be given. Tea and coffee should be avoided as tending to increase nervous irritability. In cases which tend to be prolonged, the high caloric diet should be enforced, giving any simple, easily-digested food which the patient may readily take, the caloric content being increased where possible by the addition of lactose. Of the highest importance is an adequate fluid intake. Almost without exception at necropsy the bodies of those dying from meningococcic infection lack the ordinary amount of fluid. Patients may drink almost without limit and should be given in addition to water, lemonade, orangeade, imperial drink, or other grateful beverages, to which, to furnish additional calories, lactose may be added. In cases that persistently resist the giving of nourishment gavage may be resorted to, best when under the influence of chloroform or morphine and in connection with the narcosis that may be required for intraspinal treatments. Sufficient fluid intake may be insured by hypodermoclysis or infusions of saline solution.

EYES

The eyes should be shielded from strong light but otherwise left alone, the physician bearing in mind always the possibility of panophthalmitis and the tendency of any trauma to bring about this complication. If meningococcic conjunctivitis is present the conjunctival sac should be washed out gently every two hours with a saturated solution of boric acid, and one or two drops of 20 % argyrol solution introduced two or three times daily. In the intervals a 50 % solution of anti-meningococcic serum may be dropped into the eye with good effect. Cold compresses are also useful.

MOUTH

The usual mouth toilet is enforced, bearing in mind always the frequent presence of the virus in the nose and throat. All sputum and nasal discharges must be collected upon paper or gauze and burned. Gowns should be worn by attendants; also masks made of at least three layers of rather closely-woven cheesecloth. The washing of hands with a 5 % solution of liq. cresolis comp., or equivalent antiseptic, after handling the patient or his discharges, is to be enforced.

SPECIFIC SERUM TREATMENT

Meningococcic infection may be said to have three stages:

1. Local in the tonsils, naso-pharynx, nares and accessory sinuses or conjunctiva.

2. General, i. e., an invasion of the blood stream or meningococcic sepsis.

3. Local in the meninges in 95 % of the cases with or without involvement of the joints, lungs, eye, pericardium and other structures.

The second and third stages may overlap and merge. Furthermore, the difficulty of recognition of the second stage under ordinary conditions makes it important to continue to focus attention upon the meningeal involvement.

STAGE I—TREATMENT OF FIRST OR CARRIER STAGE

Recognition of the first or carrier stage is only by culture since there is nothing specific in its clinical manifestations. Its treatment is almost entirely local. Dichloramin-T in 2 % solution is recommended as a nasal and pharyngeal spray. Normal saline solution, or liquor antisepticus alka-

linus, or peroxid 30 — give results that are almost equivalent. Resistant cases may yield to undiluted anti-meningococcic serum dropped into the nares when the patient is lying on the back, the upper air passages having been cleansed by a preliminary spray of a normal saline solution. It is to be remembered that time will cure the majority of these carriers; the meningococcus as a rule not persisting in more than 10 % of them for over three or four days. Approximately 1 % of the carriers will not yield to any of the methods of treatment mentioned. These are doubtless cases with inaccessible foci in tonsils, pharyngeal adenoid tissue or accessory nasal sinuses. It may be best to deal with these foci surgically. This must be done advisedly, however, as local surgical interference may result in the generalization of the infection.

In the case of the chronic carrier proving resistant to all forms of treatment, vaccines may be tried. One-half to one million dead meningococci may be injected immediately beneath the skin twice weekly for two or three weeks. Little result is to be expected from this, since the chronic carrier apparently vaccinates himself continually from the focus of infection.

STAGE II—MENINGOCOCCUS SEPSIS

While this stage is as yet questioned by some authorities who have not had the opportunities of a military experience, observations made in military hospitals have shown it to exist in a sufficient number of cases to warrant its possibility being kept in mind by the general practitioner. While in most cases it is of short duration, averaging perhaps forty-eight hours, it may be prolonged for a number of days or even weeks. On the other hand, it may be so transient as not to be clinically separable from the subsequent stage of meningitis. The features of this stage of meningococcic sepsis, in which the symptoms of a general infection are present with a normal cerebrospinal fluid, have been sufficiently described in other communications.[1]

The object of treatment of the pre-meningitic stage of sepsis is the sterilization of the blood stream by large doses of anti-meningococcic serum given intravenously. Intravenous serum treatment is always a serious procedure and must not be undertaken lightly, even by the experienced. Without the greatest care one will sooner or later see serious and even fatal consequences from the intravenous injection of large amounts of serum, whether in meningococcic infection, pneumonia, tetanus or other disease. Unless one is prepared to take all the precautions to be described, one had best let this very effective instrument of treatment alone.

Sensitization should be determined by the intracutaneous test. A fraction (0.01) of a cubic centimeter of horse serum is injected into the skin of the forearm so that a small welt is made. As a control, a like amount of normal saline solution is injected at the same level at a distance of about 2 inches from the site of the injection of serum. If the subject is sensitive, an urticarial wheal will appear at the site of the injection of serum. Within a few minutes to one hour this raised area with whitened center and erythematous border may attain a diameter of two inches or more. Its absence does not rule out sensitization. If the skin test is negative, one injects at once from 0.5 to 1 c. c. of serum subcutaneously as a desensitizing dose. If the skin test is positive more caution is necessary, 0.1 c. cm. is first injected subcutaneously. If no symptoms result 0.5 c. c. is injected thirty minutes later; then 2, 6 and 10 c. c. at thirty-minute intervals. If no immediate serum effects follow these injections one may safely proceed with the intravenous treatment with the further precautions to be described.

The desensitization by serum may be aided by drugs, of which atropine is chief. One-half hour before an intravenous injection of atropine sulphate gr. 0.01 to gr. 0.02* should be given hypodermically. If there is restlessness, apprehension or difficulty in controlling the patient, mor-

* All doses of drugs or serum given are for adults. The doses of serum given intravenously should be graduated roughly according to body weight. A child of ten should receive about 50 to 60 c. c.; a child of five about 30 to 40 c. c.; an infant of one year about 20 to 25 c. c. The amount of serum given children intraspinally should follow the general rules laid down in the article.

phia gr. 1/6 to gr. ¼* should also be given at this time. Our experience with over one thousand intravenous injections leads us to the opinion that atropine should never be omitted as a preliminary to the first large intravenous injection of serum. One hour after the desensitizing injection of serum in individuals giving a negative skin test, or one hour after the injection of 10 c. c. without reaction in sensitive individuals, one is ready to proceed with the first intravenous injection. The serum may be given without dilution, but it is safer to dilute with equal parts of normal saline solution. If the serum contains a precipitate, filter through sterile cotton. The simplest apparatus is a 20 c. c. Record or Luer syringe. In adults the vein at the elbow is the most convenient site. The external jugular may be used. It is proper to give serum to infants by the longitudinal sinus reached through the anterior fontanel. The syringe is filled with serum and the needle introduced into the vein, which is distended by moderate compression above. The flow of blood into the syringe upon slight withdrawal of the piston indicates that the vein has been penetrated by the point of the needle. The most critical part of the entire treatment then follows.

The secret of safe intravenous serum injection is the slow injection of the first 15 c. c. The rate of injection should not exceed 1 c. c. per minute. If the first 15 c. c. are introduced without serious symptoms, the rest of the injection may be made at a much more rapid rate, so that the injection of 100 c. c. need not occupy more than thirty minutes. During the first fifteen minutes of the injection the operator must be on the alert for immediate serum effects and upon their appearance must without delay stop the injection. These symptoms in the order of their importance are: dyspnea, collapse, precordial distress, great restlessness or apprehension; rapid, weak, irregular pulse; cold sweat and vomiting and urticarial rash. If these symptoms are slight and pass off at once the injection may be renewed at the same sitting, always with the same precaution of slow initial rate of injection; if more severe, the injection should be stopped altogether and the attempt renewed after one or two hours. This second attempt seldom gives trouble, the patient being desensitized completely by the earlier serum administration so that further injection may be made without hesitation. In each and every injection, however, the first 15 c. c. should be introduced at a rate not to exceed 1 c. c. per minute. If the symptoms of anaphylaxis do not immediately cease when the injection is stopped, adrenalin m. X to m. XV* should be given subcutaneously or even by vein if dyspnea or collapse is serious. Artificial respiration might be necessary if respiration is greatly embarrassed or ceases. If great restlessness is present morphia is helpful.

In severe cases of meningococcic infection in the adult, anti-meningococcic serum in doses of 100 c. c. should be given every six or eight hours, and in less severe cases every twelve or even every twenty-four hours until there is definite improvement, or until 4 to 6 doses have been given. The average case will not require more than 3 intravenous serum treatments.

THIRD STAGE—STAGE OF LOCALIZATION IN MENINGES OR ELSEWHERE

This stage merges with the second and may exist simultaneously with it. In the average case its treatment can hardly be considered apart from the second stage or the stage of sepsis. In the majority of instances, therefore, the intravenous serum treatment is combined with the intraspinal. In cases in which the diagnosis is made after several days' illness and when the disease process has localized in the meninges, intravenous treatment may not be necessary, especially if desirable response to intraspinal therapy is had. This is particularly true of the less serious type of infection which do not demand intensive methods.

LUMBAR PUNCTURE

This operation is simple if one observes three rules:

1. Arch the spine forward by bringing the patient's knees and chin as near together as possible.

2. Be sure of the intervertebral space, marking the point midway between two lumbar spines by converging lines.

3. Insert the needle in the exact center

of this intravertebral space in a direction perpendicular to the plane of the back or inclined slightly upward.

Most of the difficulties with lumbar puncture result from failure to regard the first rule. An assistant should approximate the patient's knees and chin by passing his arms under the knees and about the back of the neck with his own knee on the bed in contact with the patient's abdomen. A sheet may be used to draw the head down and the knees up if no muscular assistant is available. The assistant must guard against any sudden twisting, turning or straightening of the patient lest a broken needle result. If opisthotonus is present and the spine can not be arched forward sufficiently, the lateral route is preferable to the median route. In this the needle is inserted about ½ to 1 inch from the median line, thus avoiding the supraspinous ligament. It is passed in a direction slightly inward and upward so it will meet the median plane of the body at a depth of 2½ to 3 inches. If bone is met withdraw the needle and reinsert in a slightly altered direction. Force must never be used. No attempt to manipulate the point of the needle in any lateral direction while it is deep in the tissues should ever be made.. The depth to which the needle is inserted in the adult is about 2½ inches; in children it is relatively less. One can easily feel a slight "give" as the needle slips through the dura. If one is less experienced he should withdraw the stylet at successive depths as the needle is introduced in order not to penetrate too far. If the patient complains of sharp pain in the distribution of the lumbar or sacral plexus the needle should not be introduced further, but withdrawn slightly, as this means that the cauda equina has been reached. Forcible restraint of a patient during lumbar puncture is inadvisable. The exhaustion resulting from the struggles of an unwilling or terrified patient can always be avoided by adequate doses of morphia or by a light chloroform anesthetic. The anesthetization of the skin with 0.5% novococaine is desirable. Every aseptic precaution must be observed as staphylococci introduced from the skin have too frequently caused fatal staphylococcus meningitis. If the cerebrospinal fluid is clear it is best not to remove more than 8 c. c.; if cloudy, the flow is permitted to continue until one drop every two or three seconds is all that will come. The fluid should be withdrawn drop by drop, the flow controlled with a stylet, and never allowed to escape in a stream.

Lumbar puncture in meningitis has two objects:

1. Drainage.

2. The introduction of specific antiserum according to the method of Jochmann and Flexner and Jobling. No rule which will apply to all cases can be given. The number of lumbar punctures, the amount of fluid removed, the amount of serum administered, must vary with the severity and type of infection. When a well-marked meningitis is present with thick, purulent spinal fluid, and marked systemic disturbance, the fluid should be removed until the rate of flow approximates that suggested or until the patient complains of severe headache. About 30 c. c. of serum should then be allowed to flow into the sub-dural space by gravity. It should never be injected forcibly. The serum is previously warmed to body temperature and if any precipitate is seen it is removed by filtering through sterile cotton. Following the treatment the foot of the bed should be elevated some ten inches for about one hour. If a large amount of cerebrospinal fluid is readily obtained by the lumbar puncture as much as 45 or even 60 c. c. of serum may be injected during the acute phases of the disease only. Within the limits mentioned one should, in general, inject an amount of serum 5 to 10 c. c. less than the amount of cerebrospinal fluid withdrawn. This treatment should be repeated every 12 hours until three doses have been given. If the patient is not in a serious condition, the interval of treatment may be made 24 hours. The number of intraspinal treatments will average four; some milder cases will require only one or two injections, while more severe cases may require even ten or twelve. The intraspinal treatment may be discontinued or given at less frequent intervals according to the following indications:

1. Marked improvement in general symptoms, as shown by fall in tempera-

ture, clearing of the sensorium, lessening of the signs of meningeal irritation; in other words, when the patient "looks better."

2. When the cerebrospinal fluid becomes less cloudy, contains no organisms and when lymphocytes reappear in numbers.

To sum up, therefore, the ordinary case should receive from three to four intravenous injections and an equal number of intraspinal treatments within the first 48 hours. If satisfactory effect does not result from this intensive serum treatment something is wrong. The trouble may be:

1. An overwhelming infection. In this case death is not long delayed.

2. Employment of a serum not containing antibodies specific for the strain of meningococcus affecting the patient.

3. Meningococci walled off in some part of the ventricular or subarachnoid systems inaccessible to serum treatment.

4. Other complications than meningitis.

Of these causes the second is the most important. Failure in serotherapy of meningococcus infection is most often due to lack of proper serum. This point can not be too strongly emphasized. A serum which is effective against one of the four great groups into which meningococci have been separated according to their specific agglutinability may give disappointing results when used against another group. Every physician essaying to treat meningococcus infections should be well aware of this fundamental fact. There are but two measures of therapeutic efficacy of anti-meningococcus serum:

1. Its clinical effect.

2. Its agglutinin content.

Therapeutic efficacy and agglutinin content run roughly parallel. If a laboratory is available the serum employed may be tested for specific agglutinins for the organisms isolated from the cerebrospinal fluid, blood or naso-pharynx of the patient. Agglutination should take place in dilutions of at least 1-400, better 1-800 or 1-1200. If the serum does not agglutinate the organisms in a dilution of 1-100 it is rarely of therapeutic value. Unfortunately a majority of the commercial serums are deficient in agglutinins and often give disappointing results. Serums from the Rockefeller Institute, New York City and New York State Boards of Health and from the Massachusetts State Board of Health have as a rule a higher agglutinin content for most strains of meningococci and a more satisfactory influence upon the course of the disease than most commercial serums. In the event of unsatisfactory results from serum and in the absence of suitable laboratory facilities for measuring the agglutinin content of the serum used, the attending physician should immediately secure serum from another source in the hope that it will contain antibodies specific for the strain of meningococci harbored by the individual patient. The proper standardization and distribution of serum should no longer be left to the chance of commerce or charity; rather should it be controlled by the Government in such a manner as to make a variety of properly standardized serums readily available to practitioners in all parts of the country.

It is possible to overdo treatment. In general it is best to make a concentrated attack upon the disease at the earliest possible moment, according to the method described, then to cease specific therapy for 24 hours, provided meningococci have disappeared from the spinal fluid. Drainage had best be continued once every 24 hours until the spinal fluid is fairly clear, containing less than 1,500 cells per c. mm. If meningococci persist or reappear and systemic symptoms continue, a second series of 2 to 4 intravenous and an equal number of intraspinal treatments should be given at intervals of 12 to 24 hours according to the gravity of the symptoms. If intraspinal serum administrations give great discomfort, pain in the back, legs or head and are followed by an increased amount of meningeal irritation, one has reached the not-infrequent stage of hypersensitiveness of the meninges to serum. In this event no more serum should be administered intraspinally, even if a few meningococci persist. In these hypersensitive cases it is often wise also to discontinue drainage by lumbar puncture unless the fluid is thick and a block feared. Usually, however, in this condition the fluid is thin and only moderately cloudy. Not infrequently a patient will improve from

the time treatment is omitted and requires no further serum.

From the seventh day after the inception of serum treatment, serum sickness may appear. This is characterized by a rise in temperature, urticarial or erythematous rashes, arthritis, glandular swellings or edema. While these symptoms do not contraindicate continued serum treatment, it is most important to establish the necessity of further measures directed against the meningococcus infection before additional serum is given. Usually the clearing spinal fluid, the absence of meningococci, the return of lymphocytes and the reduction in globulin, together with lessening of head retraction and opisthotonos, a clearing sensorium and a fading rash, give clear evidence of a successful fight with the invading organism.

TREATMENT OF COMPLICATIONS

Block or Hydrocephalic Meningitis.—Block may occur in any part of the ventricular or subarachnoid systems. It is most common in the aqueduct of Sylvius or about the roof of the fourth ventricle, involving the foramina of Magendie and Luschka. It may also occur in the spinal subarachnoid spaces or in the cerebral subarachnoid system as a result of interference with the absorption of cerebrospinal fluid by inflammatory thickening of the arachnoid villi or other agents of absorption. This complication may be early or late. It is more common in children than in adults. To many of the cases the old term "posterior basic meningitis" is applied. The result of block is impaired drainage and consequent increased intracranial pressure. The common type of this condition may be recognized by rapid emaciation, increased clouding of consciousness, delirium, general muscular rigidity and tremor and, most important of all, failure to obtain more than a few drops of cerebrospinal fluid by lumbar puncture. Usually such fluid as can be obtained is very thick. Occasionally during lumbar puncture sudden death may result from the wedging of the cerebellum and bulb into the foramen magnum. This is more likely to occur in acute block in the early stages of meningitis. Block may doubtless be prevented in some cases by repeated drainage of the subarachnoid system by lumbar puncture at 12-hour intervals which tends to prevent stagnation of the current of the cerebrospinal fluid and resulting adhesions. This method should be carried out with thoroughness in cases having extremely thick cerebrospinal fluid. Aspiration of the fluid in such a case should never be attempted.

If block is established immediate action is called for before too serious anatomical changes result. Puncture of the lateral ventricle through a trephine opening in adults or the anterior fontanel in infants should be done without delay. As much fluid as may readily be withdrawn is removed and a slightly less amount of serum injected. If necessary this may be repeated each 24 hours. There are two alternatives to this:

1. Cobb's method, which consists of chloroform anesthesia to relax the neck muscles, lumbar puncture (leaving the needle in place) and the vigorous manipulation of the head and neck. In some cases by this method adhesions in the fissure of Sylvius and about the fourth ventricle have been broken through and drainage re-established. The method is not without its dangers, but is quite justifiable as an effort toward relief of this serious condition.

2. Puncture of the cisterna magna, as devised by Wegeforth, Ayer and Essick may be of service in furnishing drainage and administering serum.

Surgical drainage of the subarachnoid system has been successful in isolated cases of hydrocephalic meningitis.

To be effective, treatment of block must be early and vigorous. In the stage of sub-acute or chronic block with its attendant emaciation, bed sores, clouded mind, exaggerated reflexes and irregular temperature, little can as a rule be accomplished, but a thorough trial should be made of all surgical measures, a high caloric diet enforced and body fluids maintained by intravenous injections of normal saline or glucose in 20 % solution.

Metastatic meningococcus lesions may appear in joints, pericardium, endocardium, eye, lung, pleura, epididymis and rarely elsewhere.

Treatment of meningococcic arthritis is not important since the condition is self-

limited and leaves no serious sequelæ. If pain and swelling is great the joint exudate may be withdrawn by aspiration and serum introduced.

Meningococcic pericarditis with effusion has been successfully treated by aspiration and injection of 30 c. c. of anti-meningococcic serum.

Endocarditis seems to be a hopeless condition. However, a series of large intravenous injections of serum should be tried.

The panophthalmitis may be treated in its early stages by moist, cool compresses, care being taken not to inflict injury, by the instillation of atropine to dilate the pupil and by the intravenous injection of serum in the hope of influencing this metastatic focus of infection. The question of the enucleation of the eye destroyed by this process is important. If the damaged eye is a source of prolonged pain and fever, as is so often the case, enucleation is usually advisable and striking improvement in the patient's general condition follows. The operation should not be undertaken too early. Several weeks from the time of onset should ordinarily be allowed to elapse, as surgical measures undertaken too early may result in renewed generalization of the infection.

The post-meningeal phase, characterized by headache, fatigue-ability, vasomotor disturbances, intolerance of sunlight, weakness of the lower extremities and exaggerated reflexes, is usually cured by time. It is possible that small doses of potassium iodid assist in clearing up the slowly-absorbing exudate in the meninges which is the undoubted pathological basis of many of those symptoms. The feeling of inadequacy, the lack of initiative and energy characterizing the period of convalescence have to be met by appropriate psychotherapy. Most of the cranial or peripheral nerve palsies disappear within a few weeks; those persisting for more than three months are usually permanent.

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THE CLINICAL SIGNIFICANCE OF ACHYLIA GASTRICA*

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Inasmuch as achylia gastrica is not regarded as a clinical entity, but as a symptom associated with various disease conditions, a tabulation and study was undertaken in order to determine, if possible, the existence of some relationship with any particular disease or group of diseases, in addition to the influence of age, sex, habits, etc., as etiologic factors. The real clinical significance can only be established on such a basis.

Because of its incidence, approximately 11 per cent. of our gastrointestinal cases, the subject deserves most careful study and consideration. No attempt will be made to review the voluminous literature, nor will any reference be made to symptomology, this paper having for its object the single purpose of classifying concomitant and previous diseases into groups, according to etiology, and comparing these groups to show the relative frequency with which they are associated with achylia gastrica.

As a result of our analysis, it has been found most practical to arrange them into the following groups, which are here designated according to the order in which they most frequently occur:

1. Chronic focal and systemic infection
2. Endocrinous
3. Nervous or reflex disturbances
4. Gastrointestinal
5. Cardiorenal
6. Metabolic.

CHRONIC FOCAL AND SYSTEMIC INFECTION

This represents the largest group. One hundred and forty-three focal and systemic infections occurred in seventy-seven achylic patients. Of these, one hundred and eight were definitely focal and thirty-five were systemic. And of the focal, sixty-nine were about the head, chiefly as some form of oral sepsis. Chronic cholecystitis, appendicitis, arthritis, pyelitis

*Prepared for Section on Medicine, Southern Medical Association, Twelfth Annual Meeting, Asheville, N. C., Nov. 11-14, 1918, postponed one year on account of influenza epidemic.

and rectal abscess, comprising thirty-nine infections, formed the remainder of the group.

Focal or combined focal and systemic infection appeared in seventy-two cases. Systemic without focal appeared in five cases, four of which were pulmonary tuberculosis, which might well be classified as focal, and one malaria.

ENDOCRINOUS

This group embraces all the cases with disturbance of the endocrine functions, including the thyroid, parathyroids, pituitary and gonads. In all there were thirty-nine cases, thirty-three of which also belong to Group 1, having demonstrable focal infections. One case of hypopituitarism was due to brain tumor.

None of our cases of adrenal insufficiency were achylic, although the fact that this frequently occurs has recently been pointed out by Bassler and Gutman.

It is a well-established fact that infections play an important part in the pathogenesis of diseases affecting the endocrine system. In an article, "The Relation of Chronic Infection to Thyroid Deficiency," SOUTHERN MEDICAL JOURNAL, July, 1918, one of the writers has emphasized this point.

From the analysis of our cases of achylia gastrica, one is impressed with the analogy between the relation of chronic infection and achylia and chronic infection and disturbances of the glands of internal secretion. It is, consequently, safe to assume that the latter is not the cause of the former, but merely an associated syndrome.

NERVOUS OR REFLEX DISTURBANCES

Of the twenty-seven patients with the possibility of a reflex influence on the gastric secretion, all but four were suffering with chronic infections. The infections were focal in character in all but one case. It is, therefore, quite improbable that reflex disturbances serve as a factor in producing achylia gastrica.

GASTROINTESTINAL

With the exception of carcinoma of the stomach and chronic interstitial gastritis, the diseases in this group may be regarded simply as independent affections (constipation, atony, gastroptosis, visceroptosis, fecal stasis) or conditions secondary to achylia (diarrhea, mucous colitis, enterocolitis) and consequently need no further consideration.

However, in carcinoma, of which there were seven cases, and in chronic interstitial gastritis, seven cases, there is a definite pathology to account for the absence of gastric secretion.

CARDIORENAL

In this group there occurred nine cases of chronic nephritis, three of chronic endocarditis, two of arteriosclerosis and one of polycystic kidney, an exceptionally small group when one considers the fact that over 50 per cent. of the patients were over fifty years of age. Eight of the nine cases of nephritis had either oral sepsis or chronic cholecystitis.

In view of these facts, one would naturally assume that cardiovascular and renal diseases have no etiological significance in achylia gastrica.

METABOLIC

There were only three cases which definitely belong to this group, one of obesity, one of gout and one of pellagra. The number is entirely too small to have any bearing etiologically.

In addition to the foregoing, there is a small group of miscellaneous diseases, of which pernicious anemia is the most important. There were seven cases in the series. Hunter was perhaps the first to point out the relationship of focal infections to other diseases when he discovered that oral sepsis is at times responsible for severe forms of anemia. The best treatment recognized today for pernicious anemia is to search for all possible foci of infection and remove them. It is easily conceivable that the same infection which causes pernicious anemia may also cause the achylia, and in this respect is comparable with the endocrine disorders associated with achylia.

Rehfus, at the recent meeting of the American Medical Association in Atlantic City, made the statement that in achylia gastrica the focal infection may be in the stomach itself. He reported three cases which he diagnosed and treated with specific vaccines.

AGE AND SEX

Thirty-four cases occurred in the male and sixty-six in the female. Twenty-five per cent. of the total cases between thirty and forty years of age and thirty-five per

cent. between fifty and sixty years of age, indicate that there is an increased susceptibility during these decades.

Accepting the view of the infectious origin of achylia, it seems quite probable that chronic cholecystitis, of which there were eighteen cases, most of which occurred in patients over fifty years of age, is responsible for the increase in prevalence during the sixth decade.

HABITS

The excessive use of coffee, tea, alcohol and tobacco represents all grades from moderate abuse to the habitue. There were eight addicted to the excessive use of coffee, five to tea, four to alcohol and nine to tobacco.

It is significant to note that while alcohol and tobacco were invariably accompanied by some form of focal infection, it was quite the contrary with tea and coffee. This would lead one strongly to suspect that both tea and coffee in excess are capable of producing achylia.

CONCLUSIONS

1. Focal and systemic infections are unquestionably concerned in the etiology of achylia gastrica.

2. The disturbances of the glands of internal secretions associated with achylia gastrica are also the result of chronic infections and not the cause of achylia.

3. Nervous or reflex disturbances in themselves are not etiological factors.

4. Exclusive of carcinoma of the stomach and advanced stages of chronic interstitial gastritis, gastrointestinal disturbances are either incidental or secondary to achylia.

5. It would appear that cardiorenal and metabolic diseases occur coincidently with chronic infections and play an unimportant part in the etiology of achylia gastrica.

6. Alcohol and tobacco in excess without focal infections will apparently not produce achylia. The excessive use of tea and coffee may produce it.

TABLE I.—SHOWING FOCAL AND SYSTEMIC INFECTIONS ASSOCIATED WITH 100 CASES OF ACHILIA GASTRICA

Focal		
Head:		
Chronic Tonsillitis	22	
Alveolar Abscesses	26	
Pyorrhea Alveolaris	17	
Sinusitis	2	
Mastoiditis	1	
Otitis Media	1	69
General:		
Chronic Cholecystitis	18	
Chronic Appendicitis	11	
Multiple Arthritis	7	
Chronic Pyelitis	2	
Perirectal Abscess	1	39
		108
Systemic		
Chronic Tuberculosis	12	
Chronic Malaria	10	
Articular Rheumatism	9	
Tertiary Syphilis	3	
Amebic Dysentery	1	35
Total		143

TABLE II.—SHOWING ENDOCRINOUS SYNDROMES ASSOCIATED WITH 100 CASES OF ACHYLIA GASTRICA WITH AND WITHOUT FOCAL INFECTIONS

	With Focal Infections	Without Focal Infections	Total
Thyroid —			
Hypothyroidism	12	1	13
Hyperthyroidism	8	4	12
Adenomatous thyroid (without symptoms)	6	0	6
Parathyroid —			
Chronic latent tetany	1	0	1
Pituitary —			
Hypopituitarism (distrophy adiposogenitalis)	4	1	5
Gonads—			
Hypogonadism	2	0	2
	33	6	39

TABLE III.—SHOWING NERVOUS OR REFLEX DISTURBANCES ASSOCIATED WITH 100 CASES OF ACHYLIA GASTRICA

The lesions tabulated occurred in 27 patients Of these, 23 showed focal, and 1 systemic infection.

General—		
Hemorrhoids	13	
Hernia	9	
Prostatic hypertrophy	7	
Nephroposis	4	
Renal calculus	2	35

Pelvic—		
Perineal laceration	2	
Cystocele	4	
Rectocele	2	
Prolapsed ovary	3	
Uterine fibroid	1	
Ureteral stricture	1	13
Total		48

TABLE IV—AGE AND SEX

Age	10-20	20-30	30-40	40-50	50-60	60-70	70	Total
Sex—								
Male		1	11	5	11	5	1	34
Female	1	7	14	9	24	8	3	66
	1	8	25	14	35	13	4	100 cases

TABLE V—COFFEE, TEA, ALCOHOL AND TOBACCO

Addicted to the Use of—	With Focal Infection	Without Focal Infection	Total
Coffee	3	5	8
Tea	2	3	5
Alcohol	4	0	4
Tobacco	9	0	9
	18	8	26

DUODENAL LAVAGE IN TREATMENT OF CATARRHAL JAUNDICE: CASE REPORT

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Catarrhal jaundice results from inflammation of the bile ducts and gall-bladder. The terminal portion of the common duct is most frequently affected. Its lumen is sometimes completely closed by the swollen mucous membrane, while a plug of mucus fills the diverticulum of Vater. Two types of jaundice are recognized. First, cases in which there is marked obstruction, and secondly, obstruction of the biliary passages from viscidity of the bile in the smaller ducts, with destruction of red blood cells (hemolysis) from the bile acids.

Recognized causes are bacterial infection from the colon bacillus, staphylococcus, pneumococcus and streptococcus. Under pathological conditions these microorganisms have access to the biliary passages either from the blood stream or intestine. Inflammation of the biliary passages occurs independently of bacteria. It may be brought about by stasis of the portal system, exposure to cold and dampness, excessive and prolonged use of irritants (as alcoholic liquors), improper quality and quantity of foods, and passive congestion due to chronic heart and kidney diseases. In catarrhal inflammation of the duodenum the inflammation may extend to the cystic and hepatic ducts.* In a case of catarrhal jaundice recently reported there was an infiltration and swelling of the lymphadenoid tissue in the wall of the common bile duct similar in appearance to that seen in inflammation of the vermiform appendix.

The appearance of jaundice is frequently preceded by the symptoms of all ordinary attacks of gastro-intestinal catarrh. It is first noticed as a slight pigmentation of the conjunctiva. Following this the skin becomes stained a bright yellow color. There is more or less digestive disturbance, including a coated tongue, fetid breath, loss of appetite, flatulence

*Aaron: Diseases of the Digestive Organs.

and at times nausea and vomiting. The bowels are constipated and the stools putty-like, grayish or clay-colored, and often extremely foul. The consistency of the feces is due to excess of undigested fats. There may be a dull pain in the hepatic region and some tenderness on pressure.

The pulse is usually very slow, 40 to 60, but full. The temperature is normal, subnormal and slightly elevated. There is a noticeable weakness, prostration, loss of weight and anemia, most frequently due to destructive action of the biliary acids upon the hemoglobin of the red blood cells. Bile is an adjuvant to digestion in the absorption of fats, and it also exerts a material influence on the digestion of proteins. Therefore, for satisfactory digestion, bile should be present in the intestine. Its absence is often a contributory factor in the production of pancreatic insufficiency, defective absorption of fats, increased intestinal putrefaction, and loss of fecal coloring matter. A golden yellow bile containing marked increase of mucus and marked diminution of alkalinity occurs in catarrhal jaundice.

Normally the sphincter at the papilla of Vater opens only when the gastric chyme spurts in the duodenum, causing the formation of secretion which is supposed to evoke the secretion of bile. Hence it is the most efficient substance to effect relaxation of the sphincter at the common bile duct.

The recognition of jaundice is not difficult, but to determine its cause is not so easy. We should consider a previously-existing gastro-intestinal catarrh, the age of the patient (as in young adult life) and the presence of jaundice unaccompanied by pain or general emaciation as opposed to malignant or other serious organic diseases of the liver.

Uncomplicated cases of catarrhal jaundice usually recover in one to three weeks. However, the prognosis should be guardedly favorable.

I wish to call attention to the technic and value of duodenal lavage in the treatment of acute catarrh of the bile ducts. The therapeutic indication is to keep the bowels freely soluble by the use of salines and increase the solubility of the bile by means of alkalies. This is satisfactorily accomplished through duodenal lavage, which increases the flow of bile by dislodging plugs of mucus, and tends to lessen the catarrhal inflammation by deflecting the mucous membrane. Incidentally, constipation and intestinal stasis are also corrected. Metabolism is re-established and patients readily take on weight.

TECHNIC

While any of the duodenal tubes can be employed for the lavage, the instrument I use is the duodenal tube of Rehfuss. This has a small diameter (No. 12 French tubing) and is fitted with a metal tip. This tip is slotted with a long perforation the diameter of which is equivalent to the maximum bore of the tubing. The patient, with stomach empty, swallows the tube, lies down on his right side, and drinks a tumblerful of water. Then gravity brings the small olive-shaped lead sinker near the pylorus and peristalsis soon pushes it through into the duodenum. The operator should aspirate the duodenal contents in order to determine whether the tube has passed into the duodenum. The duodenal contents consist mostly of pancreatic juice, bile and some duodenal secretion proper. The mixture looks golden yellow, is clear, viscid and alkaline to litmus. When the olive is in the right position, lavage may be begun. The duodenal tube is attached to an ordinary irrigator or rubber bag containing the irrigating fluid, the patient turns on his back and the fluid is allowed to trickle into the bowels by the Murphy drip method.

About ten or fifteen minutes' time is enough for 1,000 c. c. of fluid to run in and for peristalsis to push it gradually onward, so that there will be no distention of the bowel.

It is found that for the treatment of catarrhal jaundice the best solution is sodium bicarbonate, sodium sulphate aa drams 2, sodium salicylate drams 1, in a liter of water, followed with 15 c. c. of a 20 % solution of Argyrol. Ordinarily I use tapwater, as cold probably excites peristalis of the gall-bladder and ducts. Treatment should be given every other day.

Patients suffer very little discomfort from this treatment and are willing to continue it for any length of time, since it is usually followed by a feeling of buoyancy and well-being.

I have not encountered any unpleasant by-effects and clinical cures have resulted

in all of my cases. Patients should drink freely of alkaline mineral water. Artificial Carlsbad salts in solution make a very satisfactory drink.

The diet should be non-irritating with a limited amount of sugar and fats. I have used the following diet with satisfactory results: Milk, buttermilk, green vegetables, peas, beans, tomatoes, asparagus, spinach, celery, lettuce, watercress, endive, and chicory; fruits of all kinds except those high in starch or sugar; orangeade, lemonade, and one orange and lemon three times a day between meals; lean meats, chicken and eggs; soups, all stock soups and bouillons—soups to be served twice a day; bread, crackers and dry toast; oatmeal, cream of wheat, pettyjohns, farina and rice; and desserts such as junkets, custards, gelatin, prune whip, stewed and baked fruits, and grapefruit. No tea, coffee or cocoa is allowed.

CASE REPORT

The following case exemplifies the good results obtained by this treatment: The patient, a male of 25, born in Missouri, was a person of good habits and had always enjoyed the best of health.

On October 26, 1918, he began to have chilly sensations over his body accompanied by headache, vertigo, nausea and vomiting, and marked prostration. He showed bile-stained urine, stools that were clay-colored and he was constipated.

Physical examination revealed nothing abnormal except pain and sensitiveness over the region of the gall-bladder.

Four days following those premonitory symptoms a general icterus developed. The duodenal contents were siphoned and the laboratory analysis showed the presence of bile-stained pus corpuscles, Gram-positive, motile bacilli, a few nonmotile cocci, and positive blood-mucus, the whole being of a brownish-yellow color.

This patient was given the prescribed treatment and diet. He remained in the hospital for three weeks and gained 20 pounds; the icterus entirely subsided; constipation was corrected; and his former health was fully restored.

Thirty-five other cases were treated in hospital with equally good results.

AUTHORS' ABSTRACTS

Medicine

Biochemical Studies of the Saliva in Pellagra. M. X. Sullivan and K. K. Jones, Spartanburg, S. C. Public Health Reports, Vol. 24, No. 20, May 16, 1919, p. 1068.

In pellagra the condition of the mouth, and especially of the tongue, is of considerable importance in establishing a correct diagnosis. The true pellagrous tongue is vividly red and more or less swollen. The literature also speaks of salivation as a symptom of pellagra. In careful quantitative studies at the pellagra hospital, Spartanburg, S. C., some interesting data were gathered on the saliva in pellagra. It was found that, though there were cases of increased salivary flow, the salivation spoken of by the patients was often apparent rather than real and was seemingly due to some inhibition of swallowing combined with a peculiar ropy change in the saliva or a high content of mucus which made the presence of saliva in the mouth more obvious. Occasionally also the flow was very slow, but in general it was within normal limits which vary considerably. The specific gravity of the saliva of the pellagra patients tended to be higher than that of the controls. The total solids, ash, organic matter and mucin of the saliva was greater for the pellagrins than for the controls, but bore no relation to the mouth symptoms. The diastatic power of the saliva of pellagrins varied within the limits established by the controls. The sulphocyanate content was much less marked in the saliva of the pellagra patients than in that of normal people. The reaction of the saliva in pellagra was found to be somewhat more alkaline than that of normal saliva.

Affections of the Endocrine Glands in Acquired Syphilis. H. H. Hazen, Washington, D. C. The American Journal of Syphilis, Vol. 3, No. 2, April, 1919, p. 205.

The literature upon syphilis of the endocrine glands is in a most unsatisfactory state, for we are just beginning to develop a working knowledge of the endocrinopathies. As the work upon vegetative neurology increases it becomes evident that the activities of the ductless glands are closely associated with the action of the vagus and sympathetic nerves.

It has been satisfactorily proven that syphilis can cause hypersecretion from the thyroid, the symptoms may be either of the vagotonic or the sympathicotonic type. In one or two instances hypothroidism has been caused by syphilis. The literature deals with three distinct types of lesions: diffuse swelling associated with early syphilis, gumma formation, and disturbances caused by the administration of iodin.

We know nothing as to syphilis of the parathyroids.

There are no cases on record of acquired syphilis affecting the thymus gland.

Likewise we are ignorant concerning syphilis of the pineal gland.

Cases of Addison's disease due to syphilis of the adrenals are now well authenticated. It is interesting to note that arsphenamine may cause necrosis of these glands.

A considerable number of cases of gumma of the pituitary gland have been described. Unfortunately most of the cases have been described from the autopsy room. Hence, we are still uncertain as to the symptoms.

Syphilis of the Lungs. M. Ford Morris, Jr., Atlanta, Ga. Medical Record, Vol. 95, No. 18, May 3, 1919, p. 722.

Lues of the lungs is of two types: hereditary and acquired. In the former type, the babies are either still-born or else live but a short time. Such cases are of interest chiefly to the patholo-

gist. The acquired type is usually subdivided into the following forms: (1) gummata, (2) broncho-pneumonia, (3) fibroid induration or chronic interstitial pneumonia, and (4) syphilitic phthisis. The symptoms are not distinctive. Coughing, which usually produces offensive sputum; hemotysis, which may be slight or rather profuse; loss of weight and loss of strength; fever, and night sweats are the most common symptoms. The physical findings are, of course, dependent upon the character of the lung lesion. The disease is frequently overlooked because it so closely simulates pulmonary tuberculosis. In order to differentiate the two conditions, one has to resort to several tests, the most important being frequent examination of the sputum for tubercle bacilli, guinea pig inoculation, complement-fixation test for tuberculosis and for syphilis, and lastly, the therapeutic test. The diagnosis is made by exclusion. Tuberculosis must be ruled out. Sometimes the two conditions coexist. The treatment is the same as that for syphilis in any other part of the body—arsphenamin and the mixture of mercury and iodid.

Nomenclature of Human Isohemagglutination Groups. M. W. Lyon, Jr., Washington, D. C. The Journal of the American Medical Association, Vol. 72, No. 16, April 19, 1919, p. 1134.

The four well-recognized isohemagglutination groups of men have received different designations by various authors. The oldest naming of the groups is apparently that of Jansky, 1907, who designated them as I, II, III and IV, following their frequency of occurrence. The most commonly used designations of the groups is apparently that of Moss, 1910, who called them IV, II, III and I, respectively. Descriptive terms might be used with propriety and no chance of confusion. *Sthenic* is suggested for the strongest and most common group, persons whose serum agglutinates the corpuscles of all groups except its own and whose corpuscles are not agglutinated by the serum of any group, Jansky I, Moss IV. *Antisthenic* for its direct opposite, the weakest and least common group, persons whose serum does not agglutinate corpuscles of any group and whose corpuscles are agglutinated by serum of all the groups except its own, Jansky IV, Moss I. *Parasthenic* is suggested for the more common of the other two groups, persons whose serums agglutinate each other's corpuscles and those of the antisthenic group, but not those of the sthenic group, and whose corpuscles are agglutinated by each other's serum and by the serum of the sthenic group and not by that of the antisthenic group, Jansky II, Moss II. *Antiparasthenic* for the less common of these two groups, Jansky III, Moss III.

The Role of Tuberculosis in Dementia Precox. H. I. Gosline, Worcester, Mass. The Journal of Laboratory and Clinical Medicine, Vol. 4, No. 7, April, 1919, p. 397.

Dementia precox is realized by two types of psychosis, one of which is a form of toxic infection psychosis. In this type syphilis and alcohol are closely associated with the disease in some cases, but the author devotes the present study to the role of tuberculosis.

In this series 108 cases had come to autopsy; 78 could be discarded because of doubtful diagnosis or of syphilis, alcohol or infectious disease. Of the remaining 30 cases, 22 died of tuberculosis (73.3 %) and the rest showed evidence of tuberculosis.

The connection between the mental and physical disease was so close in 17 cases (56.6 %) that they are studied together as "type" cases. The rest (43.3 %) represent cases which recovered, to die of a later recurrence or of some other cause. These are important in forming part of the group of the permanently disabled insane which make up 75-90 % of the permanent population of many insane hospitals.

Ordinary routine, laboratory procedures found to be so necessary in general hospitals should aid in the diagnosis of these cases in hospitals for the insane. These include x-ray examinations and complement-fixation tests. Complement-fixation test for tuberculosis on the spinal fluid in properly selected cases has never been tried as far as the writer can determine.

One can not help feeling that the great group of the mental disorders which take so large a part of the state's taxes may gradually be put more and more among the preventable diseases.

Recent Discoveries Concerning the Life History of Ascaris Lumbricoides. B. H. Ransom, Washington, D. C. Journal of Parasitology, Vol. 5, March, 1919, p. 93.

If *Ascaris* eggs containing fully-developed embryos are swallowed, they hatch in the small intestine. Aided by the circulation, the young worms migrate to the lungs mostly via the liver. Meanwhile they undergo considerable development and in the lungs may attain a length nearly ten times that of the newly hatched larva. During the second week after infection they pass from the lungs to the small intestine via trachea and esophagus. In the small intestine they then continue their development if in a suitable host. Otherwise (in rat, mouse, guinea pig or rabbit) they are soon eliminated in the feces without further development, and quickly perish. Stewart's view that rats and mice act as intermediate hosts is untenable. Partial development of *Ascaris* in these animals is an expression of imperfect adaptation to strange hosts and not a phase of the normal life-cycle. In artificially infected lambs and young goats the worms may develop to a stage approaching maturity, these animals being better adapted as hosts than rats, mice, etc., but less perfectly adapted than pigs or human beings. Very young pigs and children are more susceptible to infection than older pigs or grown persons. *Ascaris* larvæ can be recovered from the lungs after subcutaneous injection of the eggs.

Ascaris and related forms may be involved in lung troubles of obscure origin in children, pigs and other young animals. The migrating larvæ can cause fatal pneumonia in pigs as well as in small laboratory animals.

TROPICAL DISEASES AND PUBLIC HEALTH

PREVENTIVE MEDICINE AND SOME PRESENT-DAY PROBLEMS*

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During the past century the civilization of the world has passed from an era of superstition and ignorance into an era of enlightenment and intelligent application, in a large measure, of the principles of preventive medicine. We are now entering, I believe, upon the greatest period of constructive hygiene the world has ever known. During the great World War, with its awful and inexpressible horrors and the wholesale sacrifice of human life, curative and preventive medicine had, as it were, a new birth in the creation of ideals, in a more profound knowledge of social and civil life, and in the application of new methods of preventing and treating disease.

The discoveries in the realm of preventive medicine, such as vaccine for the prevention of tetanus and the determination and use of the lipovaccines in the prevention and treatment of pneumonia, and the prevention of typhoid fever, mark an epoch in the history of serum therapy. Moreover, the spirit of unselfishness, service and sacrifice displayed by the American physician and surgeon who enlisted for war service at the country's call exemplified a patriotism and an impelling desire to contribute to the Nation's need in the time of greatest peril. The American physician showed as perhaps never before in the history of the world, whether in service in the hospitals, on the battle fields, in the camps or at home, that he was striving to do that which would be to the interest of his country, thus showing a patriotism founded upon the proper adjustment of a profession not only to the needs of military life, but also to the civil population. There was an unmistakable desire on the part of the medical man not only to provide without any question for the soldier, but also to minister to those who were left at home. The war was a great evil, but out of it came some good things, not the least of which is the fact that the American physician and surgeon of the future will have a bigger heart, a broader vision and a more profound sympathy for humanity.

There has also come, with the organization of a great army, through the spirit and genius of American institutions, a knowledge of abnormal conditions existing in civil life and social life, which formerly were either entirely ignored, if known, or were not sufficiently known to be intelligently appreciated. It may be truthfully said that previous to the declaration of war our people were fast becoming listless and indifferent, and, I might say, shamefully disregardful of some of the most beneficent needs of human society. Owing to the investigation of conditions incident to the organization of the Army, information of the conditions of social and civil life became known which, if properly comprehended and appreciated in the future reconstructive work of our country, will result in a great and lasting blessing to this and future generations.

When it is realized that 42 per cent. of the men examined, chiefly of draft age in our State, proved to be physically defective and unfit for service to their Nation at the most critical period in its history, it is indeed appalling! When it is further realized that of this number there were hundreds of men who, having been admitted to the Army, were later found to be tubercular, it is time for us to awaken to the imperative need of statesmanship and constructive legislation looking to the control and ultimate solution not only of this problem, but the many problems of public health with which we are faced, and the solution of which is essential for the future prosperity of our country.

It is an aphorism that epidemic and other diseases follow in the wake of war. What more striking illustration could we have than our recent sad experience with influenza and other respiratory diseases? When we know that influenza caused not less than four hundred thousand deaths in

*President's Address before Mississippi State Medical Association, Hattiesburg, May, 1919.

the United States since August 7, 1918, something less than one year, and that this is a preventable disease, it presents to the medical profession a great opportunity for the solution of more definite and scientific methods for the prevention, control and cure of such menacing diseases. The recent war has impressed on us as no other agency could have done the need of investigation of the respiratory diseases. Dr. Victor C. Vaughan, in an address before the American Public Health Association in December, made the startling statement that with but few exceptions the medical profession of today knows no more about respiratory diseases, so far as scientific prevention and treatment are concerned, than was known one hundred years ago. We recognize that immense strides have been made in the control of intestinal diseases, such as typhoid fever, cholera, hookworm disease and others of the group which were formerly a serious problem in our Army and Navy. There is no longer any question of solicitude since such discoveries have been made as anti-typhoid vaccine, cholera serum and other therapeutic measures in the prevention of this group of diseases. So we hail the day when the medical profession will know more about the respiratory diseases such as influenza and pneumonia and reduce the high morbidity and mortality rate incident thereto.

The Secretary of the Navy, Mr. Daniels, made the statement on November 20, 1918, that one of the compensations for the tragedy (war) is the fact that enlightenment is behind the organization to protect the youth of the country against venereal diseases. The campaign begun in the war to show the military fitness is quite as necessary to save men for civil efficiency. Before the war physicians and public health officials knew that social diseases caused each year thousands of cases of blindness among children, many cases of paralysis, paresis or softening of the brain, insanity, diseases of the heart and blood vessels, physical and mental deficiencies among thousands of men, women and children and interference with important functional phenomena of the body. It would indeed be an indictment of civilization if the people have generally known these facts and have been indifferent to action. But the people generally did not know these things and as a result false modesty and the veneer of social life have maintained uniformly an ignorance about the social evil. The public has been in the dark. War opened the eyes of the people. The report of the draft boards and of the camp surgeons revealed, as never before, and clearly, the menacing effects of the social evil and the utter failure of our previous attitude toward the whole question. Europe for the first year of the war evaded the problem and suffered terribly in incapacity at the front and sickness behind the lines. Not only was this true, but the civil population became disintegrated and disorganized as a result of such an oversight and neglect. The intelligent forethought which was used by our Government under the direction of the greatest and noblest of sanitarians, Surgeon-General William C. Gorgas, relative to the venereal disease problem in the United States Army and Navy will forever redound to the glory of the American Nation.

At the very outset the leaders of our Nation appreciated the importance and the absolute necessity of dealing with this problem in a sane, scientific and commonsense way. As a result, statistics show that the soldier boy of the American Army and Navy was better protected in camp life and in the service of his country than in civil life. We know that of every five soldiers who were so unfortunate as to suffer from these diseases, four of them contracted such infections before entering the Army, or while in civil life; that a large percentage of the cases which occurred in the Army and Navy were also a result of conditions in civil life which made it possible for these diseases to exist unhampered and uncontrolled. It would be unpatriotic if I were not to state in this connection that these diseases were better controlled and there was less infection among the American soldiers from them during the present war than in any army of any nation in the history of the world.

With the coming of peace we face this increasingly difficult problem with a new point of view. We may well ask ourselves the question, "Why should other infectious diseases be elevated to the dignity of a danger to the public and an effort made to prevent their spread, while an-

other class of diseases, compared with which the former is but a mole hill to a mountain, has been completely ignored?" That these diseases are preventable every one will concede, and that the solution of the problem is within the bounds of possibility no intelligent person can deny. When Surgeon-General Gorgas made the statement during the war that the venereal disease question continued to be a serious question in the Army, chiefly because of undesirable conditions which existed in civil life, he emphasized in an unmistakable way that it is no less a problem for civil life. And since the signing of the armistice and with the declaration of peace our State and the citizens of our commonwealth and Nation collectively should never lose the control which has been established or stop any work which is so vital among the reconstructive problems that naturally follow in the wake of war. These diseases can unquestionably be controlled in a large measure by the co-operation of the state, the officials of the towns, cities and counties, the medical profession and the enlightenment of all the people on this subject.

The war has impressed upon the Nation the importance of good health and normal physical development in acquiring and maintaining the proper standards of physical efficiency. The medical profession has been persistently advocating during the past quarter of a century the proper standardization of medical education, not only because of its bearing upon curative medicine, but also for the more far-reaching purpose of preventing disease. The citizens of our State and our Nation are gradually awakening to the increased importance of public health for the community, city and commonwealth.

During the past ten years Mississippi has made rapid progress in accomplishing those things for which the medical profession of the State has stood for the past half century. The people of the State are now realizing as never before the intrinsic value of the principles of hygiene which should be applied in their daily lives in the prevention of disease and in the prolongation of human life. They realize the healthy man and woman means increased efficiency in the economic development of the State and that maintaining an efficient health organization for the city, county and commonwealth is fundamental or basic in the State's program for progress.

It will be of interest to review briefly some of the advancements in medical education and public health work in Mississippi during the past ten years. In 1911, a bill was passed by the Legislature revising the then out-of-date medical practice act and requiring all medical students to have a four-year high school course for entrance to a reputable medical school which should give four sessions of work, each session thirty-two weeks in length as a minimum requirement for graduation in medicine. During the same session of the Legislature the State Board of Health through the co-operation with the medical profession succeeded in securing an increased appropriation for health work from $8,000.00 to $22,000.00 per annum. This made it possible for the State Board of Health to enlarge the State Hygienic Laboratory, which was established in the latter part of 1910; to create the Bureau of Vital Statistics; and to inaugurate a system of inspection of places of public utility in the municipalities of the State. There was also conducted during the years of 1911 and 1912 a systematic and aggressive educational campaign throughout the State for the enlightenment of the people on hygiene and sanitation.

So with the convening of the Legislature of 1913, two years later, the Board of Health had already established upon an effective basis the State Hygienic Laboratory, the Bureau of Vital Statistics and the municipalities of the State were being inspected in an effective manner. During the legislative session of 1913, the health laws of the State were somewhat amended, and to a certain extent improved. It was then evident that the people of the State were approving as never before the work of the State Board of Health. Although the State was facing difficult financial problems, the appropriation for health work was increased from $22,000.00 to $23,000.00 per annum. This made it possible to enlarge somewhat the activities of the Board of Health during the next two years.

Perhaps the most constructive period of public health work in Mississippi has been during the past four years, including 1919.

The foundation had been laid by effective educational activities during the preceding six years and as a result the Legislature of 1916, with expressions of approval of the work which had been done, increased the appropriation from $23,000.00 to $32,000.00 per annum. During this session of the Legislature the model law was also passed for the prevention of blindness. However, the most notable piece of work done by this Legislature was the passage of the law for the creation, establishment and maintenance of a sanatorium for the control and treatment of curable cases of tuberculosis. The public health work of 1916 and 1918 was conducted in such a way as to produce results which far more than compensated for the appropriation made and the expenditure incurred.

So the Legislature of 1918 showed a most favorable attitude to public health activities because of the growing public sentiment in favor of efficient health work. Practically all legislation requested was passed without any material difficulty during this session. The appropriation was increased from $32,000.00 to $48,900.00 per annum. The medical practice act was revised, providing that the examination subjects for license to practice medicine be increased from eight to twelve, requiring the additional subjects of Physical Diagnosis, Theory and Practice of Medicine, Histology and Bacteriology, and Eye, Ear, Nose and Throat. This gives Mississippi one of the best medical practice laws enacted by any state, and it will enable the Board in time to obtain reciprocity with practically every state in the Union. There was also enacted during this session of the Legislature a model dairy and creamery law for the purification of milk and its products for use in human consumption. Owing to the splendid results which had been achieved in rural sanitation, largely through the beneficent endowment of the International Health Board, a special appropriation was made by the State to supplement a corresponding appropriation for the ensuing two years.

There also arose because of the war conditions the necessity for legislation for the control and suppression of venereal diseases. And there was enacted into law the abatement and injunction act for the control and suppression of vice, and a law for the control, suppression and treatment of venereal diseases. Owng to this advanced legislation and increased enlightenment of the people of the State rapid strides have been made and definite results obtained in public health work during the years of 1918 and 1919.

Mississippi has taken her place among her sister states in educational requirements for the practice of medicine, in effective and efficient health organization, and in creating public sentiment for improving sanitary conditions, and in achieving results for better living conditions among our people. But the way has just been blazed, a good beginning has been made, but there are yet problems the solution of which will have a far-reaching effect upon this and future generations.

It has been stated that 42 per cent. of the men examined, chiefly of draft age, from Mississippi who applied for enlistment in the Army and Navy during the recent war were rejected because of physical unfitness. These men were looked upon by the military authorities as being handicapped for war service and just as they would be regarded as inefficient for military duty, likewise the rejected population of the Army and Navy would also be handicapped for civil responsibilities. The most striking feature perhaps of the rejected of the Army and Navy because of physical unfitness was the fact that a large percentage of these defects were traceable to child life that could have been corrected and these individuals made fit to fight in scores of instances. The cause of this condition can only be explained by the word "neglect."

When it is known that of the twenty-five million school children of this country at least 50 per cent. have physical defects of one kind or another, some slight, others serious, a large part of which are entirely remediable, it is nothing less than criminal for the state and Nation not to assume the responsibility of protecting our boys and girls against physical unfitness in the future. Japan has had physical and medical inspection in her schools for thirty years. Why? Because she appreciated the fact that the strength of her Nation depends upon the physical prowess of her men and the vigor of her women. Lloyd George, while addressing the people of

England, made the significant remark that it is difficult to get an A grade army from a C grade population. While it was possible for America to obtain an army from about 60 per cent. of her male population largely of the draft age physically fit, is it not the part of wisdom and economy in the future reconstructive policy of the state and Nation to start with the source of the trouble, *with the child life*, and by proper care and attention to the physical welfare of the child of school age increase the vigor and strength and make more efficient the other 40 per cent. of our population?

The youth of our State should be made physically fit, not for the purpose of militarism, but to be fit to win in the achievements of a Christian civilization. It is a serious indictment, Ladies and Gentlemen, of the civilization of this age for practically 40 per cent. of the men and women at the most productive period of life to be suffering from physical weakness because of physical deficiencies resulting largely from neglect during childhood.

But what is the remedy? It seems to me that there are two main methods by which we can conserve the health of our boys and girls to the best advantage while attaining the age of manhood and womanhood. First, there should be introduced into our schools a system of physical education which would touch the life of the boy and girl in a personal way in relation to his fellowman and which would inculcate habits of right living. It is not simply a question of teaching physiology and hygiene in the schools. This kind of a course has been given for many, many years in our schools and so far as the purpose for which it is intended, it has been largely a failure. The instruction given to the youth has not been practical and applicable to their daily lives. Neither has it enlisted their interest to any perceptible degree. On the contrary, because of the crudeness with which the work has been given, it has produced a reversion for such thought and study on the part of many students.

But there is an awakening among the school men of the State. Improvements are being made in the quality and methods of teaching, and in the near future it may be predicted with assurance that such a system of physical education as is needed for normal physical, mental and moral development will not only be required in all the schools in Mississippi, but in all of the schools in this country. This will result in a wholesome respect for the human body and it will make the boy and the girl feel as they attain their majority that the most important thing for them to do while achieving success is also to promote and conserve their physical welfare. This kind of physical education will bring the individual in touch with his environment in the right way and in the most unconscious manner because of having been trained in the habit of right living day by day, the youth of the land will so direct their lives as to prevent the invasion of disease, and on attaining manhood and womanhood, collectively, will conserve the National health and efficiency.

The medical inspection of our schools is a wholly different problem, although in a sense it is implied in physical education. This means the inspection of school children for the prevention of physical defects and the correction of such defects as are found before they develop into chronic conditions and permanently impair the body. The physical inspection of the school children can be made by a well trained nurse, with the assistance of the teacher, under medical direction, but the medical examination, or, if you please, inspection, would be made invariably by a trained physician. The nurse could point out the children who appear to need examination and the physician could restrict his activities in the main to those children who may be so classed by the nurse.

In view of the fact that the child is the ward of the state while of school age and that he is a liability until he attains the age of accountability or becomes an asset, is it a wise policy in the economic development of the state to delay further in effecting a system of physical inspection and medical examination of the school child? Indeed, it would be criminal! If we lose sight of the lessons which have been impressed upon us during the war for the improvement of sanitary conditions and the physical conditions of our people, it will be a tremendous error on the part of the state and Nation. Let me appeal to you, as a profession, to stand immovable as the Rock of Gibraltar for

such legislation in the immediate future which will effect this end.

In enlarging and making more effective the health organization in Mississippi, it is not possible to escape the fact that the county should be the unit of organization. However, it may be necessary for two or more counties which are small and not wealthy to combine and constitute a sanitary district. If we look at the county from the standpoint of human life rather than from the material point of view, we must realize that the county is not primarily so much land, with fields, woods, cotton, corn, not so much property, but it is twenty-five thousand human lives, more or less; and that the chief asset of a county is health and life. On reviewing the statistical data relative to the health conditions of an average county, we may assume that it is your county, it will be found to run about as follows: There are 360 deaths per year; of these deaths, 172 are from preventable causes; 40 deaths are due to consumption; 7 deaths are due to typhoid fever; 10 deaths are due to chills and fever; 80 deaths of children under two years of age are caused chiefly by summer complaint and the ignorance of the mother. And there are at least 732 cases of venereal disease in this average county, and there are 1,531 cases of other infectious diseases. In addition to this, there are not less than 600 people sick in bed in your county during each day of the year. There are also 120 cases of consumption in this average county, many of whom are in absolute ignorance of the effects of careless spitting and coughing, and go about distributing the deadly seeds of this disease to another crop of white plague victims. There are, if your county is in the Delta, 28,719 cases of malaria, and if your county is in the southern, south-central, or northeastern part of the State, the hookworm disease is still too prevalent. Then, to add to this array of preventable causes of physical weakness and inefficiency not less than 50 per cent. of the children of this average county of school age are suffering with some degree of severity, with physical defects which militate against progress in school as well as normal bodily and mental development, which are in a large measure remediable. This indicates approximately the preventable disease problem of a county of average size, that is a population of twenty-five thousand.

If these deaths and this sickness are predetermined and due to causes over which we have no control, these facts do not impose any responsibility upon our conscience, but if a large part of the sickness and these deaths are of preventable nature, then it does impose a grave responsibility upon our conscience. But we know that approximately 42 per cent. of all deaths are preventable and that all infectious diseases can be suppressed and ultimately controlled. This fact is conceded by the scientific and civilized world and is fully substantiated by the accomplishments of the health departments in reducing the morbidity and mortality rate from disease.

This brings us to the most important subject of this discussion, and that is that the most fundamental step in the development of health work in Mississippi or any other state in the immediate future, and upon which the success of public health work largely depends, is the establishment and development of county departments of health with a full-time health officer or director in charge. The operations of social and civil life are so fixed by tradition and the customs of social life so well established, that only effective organization and intensive public health activities can overcome the lines of force which make for the transmission of the infectious disease. The hap-hazard or careless method in fighting any disease can not achieve results, but on the contrary there must be a well formulated plan based upon scientific principles and the agencies employed for the attack upon disease must be persistent and aggressive, day in and day out with each succeeding month. The prevention of disease involves a study and to a certain extent a shaping of the social fabric of a people. The organization should therefore be extensive and intensive. This means that every individual—man, woman and child—in a county must be enlisted in the fight and the citizenship must have an intelligent interest and cooperation with the county health department.

The degree to which this can be accomplished will determine the measure of success of the health work of a county. The index of the success of all health work in

a county or state must be determined by the reduction of its morbidity rate and the death rate. With this concrete and intricate problem before the people of a county there can be no question as to the intrinsic value and the immediate necessity of establishing a county department of health with a health officer or director in charge who should give his entire time to this difficult task. The responsibility of the protection of the health of a county lies as a sacred trust on the officials of a county closely correlated and co-ordinated with the State Department of Health. "It is just as much a state and county obligation to prevent disease as to prevent crime. It is just as logical to have a guardian of public health as to have a guardian of peace and order. It is just as much the duty of the state and county to protect your home from disease as to protect your property from the encroachment of the thief." It must be also recognized that the child is a liability or ward of the state until he attains his majority. It is therefore the duty of the state and wise economy to prevent deficiencies among children and to correct the deficiencies which already exist. It is also conceded that much of the vice imbecility, poverty and crime are directly attributable to abnormal health conditions of a state. For these and other reasons that could be mentioned, it must be clear to any thinking person that the most economic expenditure of the county or state is that which conserves its greatest asset, the health, and therefore the physical efficiency, of a people.

The present law for the appointment of the county health officer is inadequate in the creation and establishment of all-time county departments of health. The gravest defect in the law is the requirement that a health officer must be selected from among the physicians of a county. This is a necessity when the health officer is employed for only a part of his time, and this is doubtless the reason for drafting the law in its present form. However, in selecting a competent physician to serve as all-time health officer there can be no inducement for a medical man to accept such a position when this is the only opportunity of its kind offered him in the state. If for good reasons he wishes to change his position to some other county, he would be prohibited by law. Then, too, it may be that no physician of a county would desire such a position, and it is possible that no physician of a particular county would be well adapted to such work. It is therefore perfectly clear that the law is unsound in theory and impractical in application. I wish therefore to enlist your interest and co-operation in having this law changed so as to make it possible to work out our county health program upon an effective and efficient basis, as the different counties may voluntarily determine to have all-time county departments of health. It must be done in such a way as to remove the health officer as far as possible from any and all influence which will militate against efficiency and result in failure.

We very often hear the well-meaning statement that the physicians in advocating preventive medicine and preaching the gospel of good health are putting themselves out of business. I do not believe this is true. This, like all other advanced movements of civilization, will be adjusted by the law of compensation just as definitely and surely as the operations of the laws of Nature. "Preventive medicine will never develop to that degree where its effect will seriously impair the activities of the physician of noble aspiration and humane motives. That disease will be prevented and the death rate reduced can not be questioned. This would seem to indicate a restricted demand for the physician, but on the other hand medical education has advanced with great rapidity during the last quarter of a century and there is a constant decrease in the number of physicians in the United States. This is largely due to the advanced entrance requirements and standards of medical education."

During the last fourteen years the number of medical students in the United States has been reduced from 28,142 in 1904 to 13,630 in 1918. This is in part due to the reduction in the number of medical schools, brought about largely by merging some medical schools and by closing others which failed to measure up to a certain standard. Just think, in 1904 this country had over half of the world's supply of medical schools, and as a consequence a vast over-supply of medical students, since many of the schools were tak-

ing any one who applied for admission. Some of them were sending out solicitors to bring them in from the by-ways and hedges.

The largest number of physicians examined for license was in 1906, when 8,038 applied for examination. And in the same year as many as 7,865 were registered by all methods. On the other hand, in 1918 only 637 were examined, and by all methods 4,185 were registered. The reduction in the number of those examined is of course partly made up by the number registered by reciprocity or on credit without examination. This country has still twice as many physicians—one for every 712 persons—as the most favored country of Europe—England—which has one for every 1,500 persons. This shows that there is no danger of a scarcity of doctors at the present time. On the other hand, there is a rapidly increasing demand for men in public health work, quarantine work, medical inspection of schools, military service, internships, medical journalism, laboratory work, scientific experiments, the development of insurance, increased attention given to tuberrulosis, mental diseases, industrial hygiene and other fields of investigation. It is certain that an increased need for medical men for the future development of the country will be offset by the increased attendance upon medical schools which is bound to come within the next decade.

"The services of the physician will in time be required less frequently by the individual, but owing to the reduction in the number of physicians, his patrons will be increased. Moreover, his duties will become of a higher type and as a consequence will demand a better remuneration. The doctor of the future will have less of the troublesome detail to follow up and more of the broad executive side of his services will be demanded. So as a result of the advanced medical standards and the emphasis upon preventive medicine, I believe that the profession will receive a great uplift and will grow in public esteem and respect and be imbued with a more noble dignity."

Briefly, and in conclusion, the medical profession should stand for the maintenance and enlargement of the health organizations which are now in operation; for legislation requiring the physical inspection and medical examination of school children; for increased attention to rural sanitation; for the organization and development of county departments of health, with all-time health officers in charge; and lastly, for the enlistment of every citizen in Mississippi for promoting and achieving these results in behalf of a more vigorous and efficient citizenship. The attainment of these results will be in line with the activities of the reconstruction period following the war, and will demonstrate that we are keeping faith with the boys who have fought and sacrificed their lives for the principles of right, justice and freedom in order to make the world safe for democracy and to make democracy safe for the world.

RURAL HEALTH WORK*

By Paul G. Pope, M.D.,
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In presenting the subject of "Rural Health Work," I have endeavored to treat it entirely from a practical standpoint, considering the more salient features of the work. We have passed the experimental stage of rural sanitation, for only a few years ago it was a problem without a solution. After three years' experience in the field, I am prepared to state that today it is a problem which is being rapidly solved. It might be safe to say that there is no department in connection with the Mississippi State Board of Health which is making more rapid progress than that of rural sanitation. Yesterday hundreds of homes were being screened and were installing sanitary closets. Today thousands of homes are doing the same thing. Only a few years ago the boards of supervisors were appropriating a few hundred dollars for rural health work. Today it is less trouble to secure an appropriation of from four to seven thousand.

The need for this work in the rural districts is too obvious to the medical pro-

*Read before Mississippi State Medical Association, Fifty-second Annual Meeting, Hattiesburg, May 13, 1919.

fession for us to go into details. One of the main objects of this campaign is to make this need so obvious to the citizen that he will work to correct the insanitary conditions that exist.

After gaining the confidence of the people it takes little effort to convince them that typhoid fever, dysentery and hookworm disease are filth-born diseases, in which the fly and the open-back privy play the leading role. If every doctor in the State of Mississippi will take the time to inform his typhoid, dysentery, hookworm and malarial patients of the true cause and how to prevent them, it will do more to advance public health work in this State than any other factor. We find intelligent people who believe that north wind and night air cause malaria; that the deadening of timber and blue scum on water cause typhoid fever. Surely the doctors of this State are indirectly responsible for these ideas. The etymology of the word doctor is not only to administer drugs, but also to teach. The success and rapid progress of these campaigns have been largely due to the co-operation of the local doctors.

There are two essential factors to be considered before a sanitary campaign can be launched, i. e., the money and the man. In going before a board of supervisors in a county to secure an appropriation, it is absolutely necessary that we go prepared to convince them that it is a necessary, practical and business investment. It is best for the Director never to go before a board alone the first time. He should take with him all the available doctors, lawyers, and business men of the county. In three out of four cases the board will respond at the first meeting. In case they fail to make appropriation, the next thing is to go before the people which they represent and put the proposition of health protection up to them.

This plan was adopted in Pike County last month. Health meetings were held in every beat in the county. The proposition and plan of the work were explained to the people in detail. A vote was taken at these meetings. The result was unanimous in favor of the board's putting on this work. The Supervisors appropriated five thousand dollars at the following meeting. This plan, if carried out effectively, will prove successful in any county of the State. It is not a bad plan, for, first, the people of the county like to be consulted in advance concerning important movements; and, second, it prepares the people in an educational way for the work which is to follow. Other methods have proven successful.

The appropriation having been made and the budget worked out in detail, the director is sent to the field to equip an office and organize a unit. Headquarters are usually located at the county seat; offices are equipped in the court house or some other convenient place. It is necessary that the offices be made as attractive as possible. The laboratory is equipped to make the ordinary tests on feces, urine, blood and sputum. A laboratory so equipped will aid materially in the amount of work which can be accomplished.

To do the most effective work it is necessary for the director in charge to have at least two assistants, one for the office and one for the field.

Before beginning the work, the director must study the map of the county and determine upon some systematic plan of procedure. In past years the county was worked by communities. Today it is worked by beats, as this plan simplifies matters. Having determined a course of procedure, the campaign is begun with a series of public lectures given throughout the beat to be worked. These health meetings aid materially in shaping public sentiment.

Other educational features, such as personal talks, distribution of literature and the press, are used intensively. A personal talk with one who is openly antagonistic to the work will often change his attitude and such a one converted will be a day's work in itself. This is by all means the most important way we have of meeting opposition.

Rural sanitation in the present and in the future is an educational problem and should be taken up in a systematic way. The schools, the press, churches and the county health officer should be used for this purpose. Special emphasis should be given the press. The majority of people in rural districts are inclined to believe all

they read in the papers. This being true, the state boards of health should take advantage as they have done in regard to venereal diseases, informing the people along the lines of hygiene and sanitation. Money will be well spent if a man were employed by the state board of health to do nothing but supervise publications. It is important that we get the local papers to co-operate with us, for they do much toward popularizing a movement of this kind. They are in a position to do a great deal of harm if they write, or allow to be printed in their columns, articles detrimental to the work. It is advisable to publish monthly reports, which consist of the progress of the work and financial statements; also an explanation of special phases of the work in detail from time to time. The utmost caution is called for, however, at all times, and only what is of real value should emanate from a state or county health department.

In regard to the survey work, it is best for the director to make the first surveys himself for the following reasons: first, he is in a better position to secure the co-operation of the people; second, he can ascertain the history of past diseases more satisfactorily; third, he will have the opportunity of doing a great deal of home inspection of children, pointing out diseased adenoids and tonsils, or any chronic trouble which is evident; and fourth, the people will be more likely to respond to a doctor's advice in regard to examination for hookworm and correcting insanitary conditions.

The assistant in the field follows the director, collecting specimens, and later delivering treatment. A woman has been found to be very efficient in this work.

We are using chenopodium exclusively in this State for treatment of hookworm. It is put up in globules of three, five, and ten minim sizes. Treatment consists of three courses given at weekly intervals. Each course consists of a capsule three times a day, six hours apart, with the usual purgation before and after.

This campaign is waged primarily against the soil pollution diseases, i. e., typhoid, dysentery and hookworm disease. As has been stated above, we treat existing cases of hookworm disease and prevent reinfections by installing sanitary closets, which will practically eliminate typhoid fever and dysentery. Vaccination against typhoid fever is recommended in case of sporadic endemic or epidemic outbreaks. Vaccination should not be recommended as a substitute for sanitation. Sanitation is more effective than vaccine in the control of typhoid fever. In the communities, towns and counties where these sanitary closets have been installed, typhoid fever and dysentery have been reduced to a minimum.

In regard to typhoid fever many of the medical profession believe—and this belief is well founded—that a great per cent. of typhoid fever is due to polluted water. There has not been a case of typhoid fever in Columbia, Miss., since the city installed artesian wells in 1906 despite the fact that there were found three hundred and thirty open-back closets out of a total of four hundred and forty homes, with only 25 per cent. of the homes screened. In the negro quarters adjoining the city limits of Columbia, where artesian water is not used, there has been typhoid fever from time to time.

The writer is more or less familiar with three methods of disposal of human waste, i. e., the pit, pail, and concrete vault closets. In south Mississippi, where the soil is close and compact, it is evident that the pit type is more satisfactory. If constructed properly and so maintained, it is flyproof, practically odorless, and prevents the contamination of the soil. And, finally, it is in the financial reach of every householder. These closets are standing the test in that they are bringing about immediate reduction and control of soil pollution diseases, and, at the same time, are satisfactory to the owner and user.

The budget is so arranged that the amount appropriated by the county finances the sanitary improvement. At present two plans are being used for installing closets throughout the county, the carpenter method and the inspector method. The first consists of employing four or five carpenters, placed under a foreman, and given charge of a beat. These men go from house to house constructing closets after the owner has furnished material and dug the pit. This method is more

satisfactory in districts where carpenters are scarce and the owners are busy farming. It also enables the director to take up the county systematically. By this method the standard type of closet is assured.

The second method consists of employing an inspector who goes from house to house giving the owners instructions as to the type of closet, etc. The owners build their own closets. This method works more satisfactorily in towns where ordinances are passed and placed under police authority. It is a question as to whether or not this plan will ever be worked entirely satisfactorily in the average rural district.

The director in charge has many calls to widen his scope of work while in the county. The citizens of the incorporated towns in the county will invariably call on him to relieve insanitary conditions.

After the soil pollution work is well under way and success is assured in the rural districts, it is advisable to consider sanitation in the urban communities. Insanitary conditions in many of the urban communities of this State are worse than we find in the rural districts. We find the same conditions congested. In working urban districts, it is necessary to have an appropriation from the city sufficient to maintain the proper number of inspectors. Ordinances must be passed regulating disposal of garbage, mosquito-breeding places, disposal of human waste, etc. The inspector is given police commission and goes from house to house giving the owner a written statement of corrections to be made with instructions as to correcting them, keeping a carbon copy for the office. At present the City of Columbia, with a population of three thousand, is being worked by this method. It might be interesting to note that a plan has been adopted whereby the city will be drained, thereby freeing it of the anopheles mosquito. The director is often called upon to test water and milk, and to abate nuisances of various kinds.

The people of the county where these campaigns are being conducted are responding in a very satisfactory way. An average of 75 per cent. are being examined for hookworm disease and 90 per cent. of the property owners are installing sanitary closets. Hardware stores say that they are selling more screens today than ever before. Since this is true, and since we earnestly proclaim that the health of the Nation is of paramount concern to all the people, it behooves the medical profession of this State, and also the State Board of Health, to exert every effort to reach as many people with this work as possible. It is practical, it is needed, and the people are responding.

AUTHORS' ABSTRACTS

Tropical Diseases and Public Health

The Prevention of Tuberculosis in Industry. D. B. Armstrong, Framingham, Mass. Modern Medicine, Vol. 1, No. 1, May, 1919, p. 51.

This article makes no attempt to cover the field, but simply presents certain phases of the Framingham experience relative to industrial health conditions, with special reference to tuberculosis.

The data may be briefly summarized as follows:

1. Out of a population of 17,000 people in Framingham, approximately 11,000 have now had medical examinations.

2. In the medical examination work of the health demonstration, 30 per cent. of those examined fall in the industrial age group of 15 to 44 years.

3. Of all those examined, 77 per cent. were found in need of medical or dental advice or treatment for serious or minor affections. For those in the industrial age group this percentage was 71.

On the other hand, when the illnesses are restricted to serious affections, 25 per cent. of the total are thus classified, and 26 per cent. of the industrial group.

4. For the total illnesses for all ages and both sexes, 64 per cent. were classified as preventable, 22 per cent. as partially preventable, and 14 per cent. as non-preventable.

5. As to economic condition, the percentage of illnesses for the different income groups was as follows:

Under $700 a year	77 %
$700 to $1,200	77 "
$1,200 to $1,800	69 "
$1,800 and over	65 "

6. The importance of tuberculosis in the industrial age group 16 to 45 years may be indicated as follows:

a. For the 29 deaths occurring during the first period of the demonstration, 16 were in this age group, or 55 per cent.

b. For the 22 cases that were sent away to institutions, 15 were in this group, or 68 per cent.

c. For the 159 cases under treatment at home, 94 were in this group, or 59 per cent.

d. For the 32 cases that left town for treatment elsewhere, and under other auspices, 21, or 65 per cent., were in this group.

7. It is finally pointed out that a complete program for the prevention of tuberculosis in industry must take cognizance of community hygiene as well as of industrial hygiene. As regards the industrial organization for the detection, control and prevention of tuberculosis in industry, such factors as employment and industrial adjustment, medical organization, nursing organization, educational work, and the sanitation of the plant are touched upon. The article concludes:

"Industry is coming more and more to recognize that it bears an obligation to the men in industry as well as to the machine. Aside from the human values involved, the protection of the producer in industry has always proved to be, even when carried out haltingly and incompletely, a profitable investment of space, funds, and personnel."

Venereal Disease Control in Civilian Communities. C. C. Pierce, Assistant Surgeon-General, U. S. Public Health Service. American Journal of Public Health, Vol. 9, No. 5, p. 340.

The author emphasizes the meaning of the remarkable piece of public health legislation, Chapter 15 of the Army Appropriation Bill, passed on July 9, 1918, creating an Interdepartmental Social Hygiene Board consisting of the Secretaries of War, Navy, and the Treasury, or their representatives; also a Division of Venereal Diseases in the United States Public Health Service; and appropriating funds wherewith to carry on further research into medical and sociological problems of the diseases of syphilis and gonorrhea, and to conduct an energetic attack upon these diseases from every known angle.

The Public Health Service focused attention at once, through its newly created Division, upon, first, the need for effective organization to control syphilis and gonorrhea through the state boards of health. Funds appropriated for Congress for the purpose were allotted to the various states which had already, or promptly, adopted certain health regulations having the force of law, to maintain bureaus of venereal disease in the state department of health. At the time of the address thirty-eight states had met the requirements and received their appropriations; were establishing clinics and extending the campaign of public education.

The second immediate need, that of educating communities regarding this newly-recognized menace to public health, was being met through pamphlets, posters, exhibits and special articles, either prepared by the different state boards of health for their own use and distribution, or secured by the states from the Federal Public Health Service. Already, the author said, it was evident that the campaign was proving successful in overcoming ancient misconceptions, arousing interest and active co-operation of individuals and organizations. Everywhere interest had been stimulated by the discovery through the Selective Service Draft of the prevalence of syphilis and gonorrhea; and physicians, druggists, ministers, teachers, employers, labor unions, women's clubs, the press, and other agencies were ready and anxious to extend a fine co-operation in the Government's campaign of disease control.

Future plans depend, Colonel Pierce said, upon the findings of certain medical and sociological experiments now in progress, as well as upon concrete experiments in the field. He acknowledged also co-operation of the American Red Cross in helping to support clinics in the extra-cantonment zones and of the War Department, Commission on Training Camp Activities, especially in the important work of law enforcement.

Narcotic Drug Addiction as Regulated by a State Department of Health. Thomas S. Blair, Harrisburg, Pa. The Journal of the American Medical Association, Vol. 72, No. 20, May 17, 1919, p. 1441.

Adding regulation of the addict to the Federal requirements, the Pennsylvania Department of Health requires detailed reports that are the basis of this article. Among the findings are these: addiction is, relative to population, worse in the small places than in the large cities and is due to better control in the large centers. Taking the state at large, prescriptions by a certain class of physicians constitute the main source of supply to addicts. Then comes smuggled and other irregular supplies vended by peddlers. There is much forgery of prescriptions by addicts.

Codeine is the drug most prescribed, morphin next, followed by preparations of opium and heroin, cocaine being prescribed but little. Many very heavy prescriptions are written, several instances being noted.

Addicts are classified and treated in a humane manner. About half of the addicts have disease other than addiction and a very heavy proportion are aged people. While arrests are made under the law, the main effort is prevention. The sensational methods lately in evidence are not employed.

Conservative methods are suggested in treatment, and the opinion is expressed that the importation and sale of narcotics should be made a Government monopoly.

Modern Industrial Medicine. C. D. Selby, Toledo, Ohio. Modern Medicine, Vol. 1, No. 1, May, 1919, p. 34.

This article treats of a program for the conduct of medical service for industrial workers, and the following topics are considered: Standardization of Job Requirements; Physical Examination of Workers; Vocational Placement of Workers; Instructions of New and Transferred Workers; Inspections; Investigations; Instruction of Foremen and Management; Health Instruction; Provisions and Facilities for Care of Health in the Plants; Prevention of Communicable Diseases; Treatment of Trivial Illnesses; Prophylactic and Emergency Dental Attention; Surgical Treatment; Social Aid; Medical Aid; and Community Aid.

The article seeks to show the medical profession that industrial medicine is a field prolific in opportunities for research and service, that it is a rapidly-developing specialty in medicine, and an important branch in the science of industrial management well worthy of the serious consideration of the best men of medicine.

SURGERY

RAILWAY, INDUSTRIAL, GYNECOLOGICAL, OBSTETRICAL AND UROLOGICAL

THE SIGNIFICANCE OF THE SIGMOID ADHESION*

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My interest in adhesion of the sigmoid was first aroused by an observation in the management of cases of left-sided pain in women. In 1907, the adherent left tube and ovary of a patient, who had been infected in childbirth were removed. At the same time a marked adhesion of the sigmoid was released and the resulting raw surfaces sewed over. The patient obtained relief. Very soon afterward another patient with the same symptoms and the same pathology was relieved by breaking up the bowel adhesions and stitching them over, without removal of the tube and ovary. The outcome was a paper, in 1909, "On Adhesion of Sigmoid to Tube and Broad Ligament as a Cause of Pain in Salpingitis."* In this article I called attention to the unjust blame often placed upon the ovary as a cause of pain and the frequent useless sacrifice of the organ.

Three years later (1912), after further experience, I was able to formulate a more definite opinion upon the subject and to present further illustrative cases.† Continued study of these cases led to the conclusion that the sigmoid adhesion might exist with or without pelvic disease, but in either instance furnished the real cause of complaint; that it constituted a definite clinical entity with clear signs which in the majority of instances could be recognized beforehand; that the symptoms could be relieved by an operation designed to correct the mechanical difficulty. The first problem was to determine a group of symptoms leading to a proper diagnosis of the condition. We still depend on these symptoms, all subjective: left-sided pain, high or low, but chiefly low down in the left iliac region; painful or difficult defecation (especially during the act) and sometimes a sense of stoppage; constipation, occasionally alternating with a mucous diarrhea, particularly in older patients, and the usual complaints of one suffering from a mild type of intestinal stasis.

The objective signs are never positive. A bimanual examination may include or exclude pelvic disease. If tubal or ovarian pathology is not found and other possible lesions are ruled out, one may be reasonably sure that the symptoms as given are due to adhesion of the sigmoid. On the other hand, even when diseased conditions within the pelvis (and especially on the left side) are evident, sigmoid adhesion should be kept in mind; for this may be the chief or sole cause of the suffering and, if unrelieved, the operation may avail nothing. Careful inspection of the sigmoid at the time of all operations in the abdomen will sometimes save us from the necessity of a secondary procedure. Undoubtedly many times the adhesion is found when not suspected, and it is always difficult to predict positively its existence, but it may be assumed in the presence of the subjective symptoms.

We are not concerned here with the ordinary conditions in which the sigmoid flexure is involved in widespread pelvic infection—a dense, fixed mass. Such adhesions are overshadowed by the pelvic disease and rarely do such patients complain so much of painful defecation as do some of those with less pelvic inflammation and more interference with the sigmoid curve. Of course, the position of this terminal portion of the descending colon may normally show wide variations. It may be attached at different levels; it may be tense or slack. It becomes pathological only when it is adherent in an abnormal position, fixed and permanent, and gives rise to symptoms. The typical sigmoid adhesion, according to our observation, is that in which the flexure is either carried far down upon the broad

*Southern Medical Journal, Vol. 3, No. 1, January, 1910, p. 34.

†Transactions Southern Surgical Association, 1912 (Surg., Gyn. and Obstet.), August, 1913.

ligament, plastered against the lateral wall of the pelvis or pushed forward over the Fallopian tube. The essential lesion seems to be the production of a kink or angulated loop, pulling the bowel downward just before it turns into the pelvis.

Besides its frequent origin from pelvic infection, two factors — intestinal stasis and faulty posture—contribute largely to the causes of the adhesion. For these reasons the condition is seen principally in women. But men may develop the affection, as proved by four cases in males on our records. The usual etiological condition having to do with ptoses within the abdomen may be operative in the case of the sigmoid adhesion. Attention has been so constantly directed to lesions in the right abdomen that we have neglected to give the left side its merited notice. Without a doubt many have continually overlooked the possibility of the sigmoid adhesion, though confronted over and over again with patients complaining of left-sided pain.

During the past two years we have undertaken to employ the x-ray as an aid in the diagnosis of sigmoid adhesion. In the main it has been very useful. There are some possible sources of error. The normal course of the sigmoid may be interpreted as a bend, owing to the personal equation, or the loop may be anteroposterior and so escape observation. We have used both opaque meals and enemas. Both are helpful in very doubtful cases, the meals being vital to exclude lesions elsewhere along the intestinal tract. It can be said that the x-ray in this condition is valuable as a confirmatory agent — precisely its status in the whole field of medical diagnosis.

Concerning the management of the adhesion it may be pointed out, first of all, that a few of the cases, mild in type, may be relieved by abdominal support, education in posture and laxatives like liquid petrolatum. Perhaps some patients cured by these means never really had the adhesion, but as far as demonstrable the typical complaints of the few are apparently banished by the suggested remedies. Practically all of those who exhibit signs of this affection will need operative interference to obtain good results.

The plan of dealing with the adhesion, practiced from the beginning as now, with slight modifications, may be described as follows: After snipping with scissors (following the "white line") any superficial bands which may cover the bowel or adnexa the sigmoid is held upward by the finger or a large pair of closed forceps. This draws taut the adhesion proper. A pair of clamps is now applied at each end of the band, one near the large intestine and the other near the broad ligament. While these are held apart the adhesion is cut transversely at its middle with knife or scissors. This incision must not be so deep as to injure the vessel lying between the peritoneal layers. In fact, a simple nick through the band may be sufficient. The forceps are then pulled apart until the sigmoid is loosened and the loop assumes a more obtuse angle, leaving a diamond-shaped raw area. Beginning at the lowest point (the middle) there are placed interrupted sutures of catgut, which close the peritoneal leaves longitudinally, thus lengthening the interval and allowing the sigmoid to drop lower into the pelvis and away from the tube and broad ligament. If the sutures already introduced are not sufficient to cover all raw surfaces, additional ones must be taken to be sure that no denuded places are left. The operation is performed through the ordinary median incision made long enough to secure ease of manipulation with the patient in the head-down position.

When I first came upon the sigmoid adhesion and realized its importance, I made this statement: "The condition is one to be reckoned with." I am more and more convinced that it is a distinct surgical entity and that it is amenable to proper treatment. On our records there are now more than sixty cases, illustrating the manifest symptomatology of the affection and exhibiting to a greater or less degree the possibility of its relief by operation. Through private communications and in public discussions numbers of my colleagues have been able to confirm the reports already made. Attention was directed to the adhesion in many instances by the failure to cure left-sided pain by previous operations only to discover the overlooked sigmoid kink on reopening the abdomen and to secure a cessation of symptoms by cutting and suturing the adhesion as described. Not all of the patients, of course, obtain relief. When the

diagnosis is not completely established by exclusion or when the operative procedure is not correctly carried out, good results will not appear.

From the middle of our list there were taken twenty consecutive patients to whom letters were written in March, 1918, asking questions about their condition at that time. These patients had been operated upon from eight months to a year or more previously. Particular inquiry was directed to left-sided pain and constipation. To these letters twelve replies were received, and they have been abstracted as follows, using the patients' own words:

1. "Left side is free from pain; occasional purgatives are needed. I go about half of the time without medicine."

2. "My side still gives trouble, more so at time of menstruation and the week after, but I have not been constipated but twice since I was operated on" (18 months previously).

3. "The pain in my side has disappeared, but am still constipated all the time."

4. "I am pretty well, except that I am not relieved of constipation."

5. "My pains are all gone. I am bothered very little with constipation. My general health has improved wonderfully."

6. "I was getting on fine until two years ago. I had a nervous break-down. I have to take purgatives sometimes."

7. "I think my side is just like it was before you operated on me." (This patient is an epileptic.)

8. "I have been getting on fine since my operation—health better than ever in my life. My pain has all disappeared. My constipation has all disappeared—never have to take any purgatives."

9. "The pain is very much less. Occasionally there is a very bad pain for four or five hours. Constipation is really no better; purgatives are required, and then I have diarrhea alternating with constipation. I believe I have not taken simple laxatives judiciously." (Operation eight months ago.)

10. "The pain has disappeared. The constipation is better, but I have to occasionally take a purgative. My general health has greatly improved. I am really in better health than I ever remember to have been."

11. "At the present time I haven't the suggestion of a pain and I am but rarely constipated. I have gained flesh—almost too much." (One of the early cases, suffering from real obstipation.)

12. "I am free from pain and have not taken a purgative since the operation." (This was one of the first patients. Her pelvis was negative, but she had a classic sigmoid adhesion. Although obstinately constipated beforehand, she never required a laxative after her operation, even while she was confined to the bed.)

RECTAL STRICTURES: THE CANCER PROBLEM*

By John L. Jelks, M.D.,
Memphis, Tenn.

My purposes in bringing this subject to your attention are:

1. To emphasize the importance of making examinations in all cases where stenosis may be a factor;

2. To stress the necessity of making such examinations after the most approved methods, viz., by digital touch, and proctoscopy or proctosigmoidoscopy;

3. To endeavor to impress upon your minds the fact that intestinal obstructions, caused by cancer or syphilis, may have become almost, if not quite, too extensive to offer hope by surgical interference before the classic symptoms have become manifest; and

4. Finally, to insist that rectal stricture cases can be cured whatsoever be the cause if the cases are taken in time by a proctoenterologist, even 'though in some cases it may be necessary to remove the entire rectum or the sigmoid colon.

I am quite frequently seeing cases of rectal strictures, some of whom complain solely of constipation, some of diarrhea, and yet others make no reference whatsoever to any rectocolonic disease. One recent case thought she had appendicitis. It is not an uncommon thing to see a case of fistula in which I find also a stricture of the rectum. It is not uncommon while protoscoping patients to learn the cause of a diarrhea which has lasted over a period of months or years, or to find single or multiple tumors, adenomata or papillomata, which in the end develop strictures more or less complete.

CASE REPORT

About two months ago a young married woman, twenty-six years old, was referred to me by the third physician whom she had consulted, the first two of whom had repeatedly prescribed purgatives for her constipation over a period of about one year. During the last month she had been losing blood, she thought from piles. Operation was out of the question, for her cancer of the rectum had extended by then to the bladder and the various other structures in the pelvis. Hence, I could only advise her husband to take her to her home in Louisville to die. But this was to me a pathetic incident. A proctoscopic examination one year previously would have en-

*Read before the West Tennessee Medical Association, Dyersburg, May 29, 1919.

abled me to tell that poor woman that she had a good chance of recovery.

A case recently examined for another one of our surgeons was referred back to him to have him perform a colostomy, to permit his patient to live a while longer and suffer a less agonizing death in the end.

There is a reason—perhaps more than one reason—for this dereliction upon the part of our profession; perhaps there are other reasons than those I might assign for physicians' not examining rectal cases or having those cases examined by a proctologist. I would not say it is indolence nor the lack of interest in the patients' welfare, but in the majority of incidencies I rather think modesty on the one hand, and a failure to appreciate the real importance of making examinations in all cases where recto-colonic symptoms are complained of, are the prevailing causes of delay. But let us be frank in our discussions today.

CASE REPORT

A few days ago I saw a case of intestinal obstruction in a woman who had never complained of her rectum either on account of pain or bleeding, but on account of the sudden development of pain in her abdomen, tympanitis, fever, nausea and inability to move her bowels, her case was at first thought to be one of appendicitis. However, during the course of consultation one of the attending physicians made a digital examination per rectum and found almost complete stricture. Her condition was such when she reached Memphis that a colostomy was performed, and later I may be able to remove her rectum and take the colon down from its present attachment in the abdominal wall and put it at the present sight of the rectum. If this woman had consulted her physician two or three months ago, and if he had made such examination as I am advocating, I could have removed the rectum by the one-step procedure.

There are some people who would hasten to their physician if they had other troubles, but will conceal a rectal disease. I suppose this is some psychological defense, as my nerve specialist friends would term it.

CASE REPORT

Apropos of this, a splendid fellow with whom I have been thrown in contact socially for twenty years was recently referred to me for an examination of his rectum and colon on account of loss of blood and secondary anemia. He did not do so, and two days ago I learned that another physician told him he had cancer of the rectum. This man told a mutual friend two months ago that he was afraid to come to me, for I might find some serious condition for which I would want to operate.

METHODS OF PROCEDURE

If the stricture is situated low it may be only necessary to perform a posterior proctotomy.

A stenosis due to valvular hypertrophy and fibrosis may be entirely relieved by valvotomy. If, however, there is an edematous involving the wall of the gut, with fibrous infiltration of the gut wall, or a similar condition the result of syphilitic fibromata, or the case is one of adeno-carcinoma, the major operation may well be considered early, before the patient's condition precludes hope of recovery, or when the two-step operation must be resorted to.

I am very partial to the perineal operation of total exterpation of the rectum. The patient will almost always choose this method on account of the normal situs of the new rectum.

Tuberculous strictures are among the most formidable conditions with which I have to contend. This is so because they are usually associated with tuberculous fistulæ and more or less extensive perirectal, tuberculous and mixed infections, so that the case must first be given preliminary drainage and cleaned up as best is possible by some form of proctotomy, and excision of the various tracts — and all this while the surgeon is running the chances of scattering tubercle bacilli, thereby converting a local tuberculous infection into a milliary tuberculosis.

The difficulties just alluded to must be surmounted. In three recent cases I was able to remove the entire rectum by the perineal route and with or without removing the coccyx, bring the sigmoid down to the former site of the rectum, replace the former attachments in as nearly the same relation as they formally had to the rectum as possible — and these cases have made uninterrupted recoveries.

Each of the cases referred to is entirely well and claims he has no special inconvenience resulting. I have sent two other similar cases out of the hospital since having performed more or less extensive operations on them for multiple fistulæ, perirectal infections and posterior proctotomy to give sufficient drainage. These will be dealt with in a similar manner as soon as the purposes for which I operated have been accomplished.

OPERATION FOR FISTULA IN ANO, WITHOUT DIVISION OF SPHINCTER (ELTING), WITH REPORT OF CASES*

By G. T. Tyler, M.D.,
Greenville, S. C.

Although it has been several years since Elting described his method of operating for fistula in ano (*Annals of Surgery*, September, 1912), I find in conversation with other surgeons, and from reading, that division of the sphincter is still very popular in the treatment of this condition. That it has been successfully treated without dividing this muscle, the results reported and those obtained from the small number of my own cases have amply demonstrated. Hence my excuse for presenting this paper is that the merits of Elting's operation may commend it to a wider field of usefulness.

Division of the sphincter ani has been followed by good results, but often the strength of the muscle is impaired, with varying degrees of incontinence. Again, the granulating wound is slow to heal, requiring frequent and many times painful dressings. Therefore, the advantages of any method of cure which does not divide the sphincter, but leaves it intact, must be apparent to any one.

The opening into the bowel is nearly always between the internal and the external sphincter. When it is difficult to find with a probe, there is the familiar method of inserting a strip of gauze into the rectum and injecting a solution of methylene blue into the sinus. The gauze removed, if stained blue, indicates the presence of the communication.

To those familiar with the Whitehead operation for hemorrhoids, this one will not be difficult. The fistulous tract is located, the sphincter well dilated, and the bowel circumscribed at the muco-cutaneous junction. It is dissected freely, beyond the internal opening of the fistula, until the healthy gut can be brought down for suture to the skin. That part below the fistula is removed and the bowel attached to the skin by interrupted silk sutures. A rectal plug is inserted to prevent oozing. The external opening of the fistula is enlarged, the tract curetted, and a small drain inserted for three or four days. In two weeks most fistulas are healed, though some require much longer.

In one case the procedure was modified. Here the internal opening was just within the external sphincter. By dissecting the bowel on the side of the fistula, the other side being quite normal, I did not perform a complete Whitehead, but was able easily to bring down enough bowel to free the internal opening of the fistula, and to suture on one side without disturbing the other. The outcome in this case was very good.

The occurrence of stricture has been reported following this operation. Gradual dilatation with finger or bougies will overcome it. Though it did not follow in any of my cases, I can not always expect such good fortune. Probably it is the result of damage caused by the long duration of the fistula or previous operation. My cases were operated upon soon after the fistula was discovered, too early for much scar tissue to have formed.

It has been my purpose in this paper not to enter upon a discussion of the operations for fistula in ano, but to give my experience with Elting's method.

The following two cases gave such gratifying results that I may be pardoned for reporting them:

CASE REPORTS

Case No. 1.—Mrs. T. C., twenty-eight years of age, had a fistula in ano whose external opening was to the left of the fourchette and whose internal opening was two inches above the external sphincter in the anterior wall of the bowel.

Dissection of the rectum beyond the internal opening of the fistula was not difficult. The bowel was brought down; the portion distal to the fistulous opening cut off; and the upper portion sutured to the skin as in the Whitehead operation. The external opening was enlarged, the tract curetted, and a wick of gauze inserted. Convalescence was uneventful. The drain was taken out on the fourth day and the patient discharged on the tenth day. At that time there was no evidence of stricture. The fistula was almost healed. The patient has remained well for three years.

Case No. 2.—Mrs. J. S., age 38, had a fistula in ano. The external opening was to the left of the anus; the internal on the left side was about midway between the internal and external sphincters. The bowel was dissected in the usual man-

*Prepared for Section on Surgery, Southern Medican Association, Twelfth Annual Meeting, Asheville, N. C., Nov. 11-14, 1918, postponed one year on account of influenza epidemic.

ner, brought down, the part distal to the internal opening cut off, and a Whitehead done. The fistula was curetted and a small drain inserted. The result was excellent and the patient has remained well for a year.

ENTEROSTOMY FOR POST-OPERATIVE ILEUS PARALYTICUS*

By J. C. Culley, M.D.,
Professor Minor Surgery, University of Mississippi,
Oxford, Miss.

Ileus may be classed as dynamic and adynamic. There seems to be some confusion, judging from the literature, in the use of the terms dynamic and adynamic. "At a meeting of the American Medical Association in June, 1907, in the symposium on intestinal obstruction, dynamic was used to mean paralytic obstruction and adynamic to mean mechanical obstruction."

Dr. Stephen H. Watts holds that adynamic means without force and should be applied to cases of paralytic obstruction.

The late Dr. John B. Murphy, while distinguishing three classes as dynamic, adynamic and mechanical, classed those cases of obstruction due to paralytic or absence of peristalsis as adynamic and under dynamic he included those rare cases of tonic contraction of the circular muscle of the bowel, such as occur in lead poisoning.

Binnie speaks of dynamic ileus as being most commonly caused by peritonitis which inhibits the motor mechanism of the intestine, while Warbasse gives a more complete causation of paralytic ileus, stating that it is one of the most troublesome and distressing conditions the surgeon is called upon to treat. He states that it is caused first by an infiltration of the walls of the intestine with leucocytes, serum and the other products of inflammation; second, by intra-intestinal and extra-intestinal toxins acting upon the motor nerves; and third, to traumatism to the intestine, peritoneum and abdominal nerves. Dilatation of the bowel aggravates the paresis.

It is not the purpose of this paper to cloud further the situation by any additional classification or to try to explain the cause, but to encourage the practice of a simple operative procedure, which will in a great many cases save a life when all other means have failed, and when, in fact, life has been despaired of.

Every surgeon who has had even a few years of experience can recall cases which, following laparotomy, exhibited symptoms of obstruction, such as abdominal pain, nausea, vomiting and marked distention, which, under appropriate medical treatment, disappeared in twenty-four to forty-eight hours. But we are all familiar with those cases which, resulting from a local or general peritonitis, refuse to yield to treatment. It is not my purpose to outline the prophylaxis of this condition, but suffice it to say that every means should be used to prevent its occurrence, and all medical measures should be resorted to, such as pituitrin, eserine and duodenal lavage. But when there is a degree of distention which looks incapable of recovery unless given mechanical relief the bowel should be opened and emptied.

While there is a difference of opinion as to the value of enterostomy in such cases, I have found from experience that it pays to give a patient the benefit of the doubt and to do so before it is too late to overcome the toxemia already existing and the shock of even the simplest operation.

The various methods of performing such a simple operation as enterostomy seem to be limited only by the number of men who resort to such an expedient.

"Warbasse exposes the lower and upper limits of the ileus, places a purse-string suture of silk in a circle on the wall of the bowel and through this circle a large trocar and canula are thrust, thus evacuating the contents of the bowel. The purse-string is tied around the canula to prevent leakage. Repeat this operation at the other end of the paralyzed segment of bowel. A rubber tube is then connected to each canula and the intestine washed out through these two tubes. This irrigation is to be kept up until the patient is convalescent."

Stewart has modified the above by placing a Murphy button into the bowel and connecting a rubber tube with it by means of the other half.

But oftentimes we encounter a condition which will not warrant any prolonged operative procedure or the handling of the bowel any more than is absolutely necessary. All that should be done is to protect the peritoneum as much as

*Read before the Mississippi State Medical Association, Hattiesburg, May 13-14, 1919.

possible and to make an opening into the distended loop or loops of intestine, provide adequate drainage and thereby relieve the distention and eliminate the toxic substances.

To bring out more clearly the value of such a procedure I ask your indulgence while I report a case of ileus due no doubt to traumatism caused by the necessary handling of the bowel to relieve extensive adhesions:

CASE REPORT

The patient, G. H., a boy eleven years old, was operated upon for a ruptured appendix with a generalized peritonitis. The abdomen was opened over McBurney's point, a large quantity of pus escaping, and drainage being instituted, the patient was placed in the Fowler position and the Murphy drip given for several days. The patient made excellent progress for fifteen days; the temperature and pulse gradually returned to normal; the bowels moved freely without cathartics or enemas; and the wound closed on the fourteenth day. On the eighteenth day he was seized with a cramp-like pain in the abdomen, which was followed by a persistent desire to defecate. These pains continued paroxysmally for twenty-four to forty-eight hours. During this time I endeavored to move the bowels with oil and enemas. Distention began to take place and an anxious expression was on the little fellow's face. Nausea and vomiting soon commenced and I endeavored to relieve the situation with eserine and pituitrin but with no favorable results. On examination of the rectum I discovered a large mass just posterior to the bladder.

A diagnosis of intestinal obstruction was made and a laparotomy performed. On opening the abdomen the whole intestinal tract was bound down by a mass of adhesions, several bands causing almost complete closure of the lumen of the bowel at different points; and the mass which was felt through the rectum proved to be coils of intestine bound down in a mass of inflammatory exudate. All adhesions were relieved and the abdomen closed. The distention subsided, nausea and vomiting ceased and the bowels moved regularly for three days, when the nausea and vomiting returned, the patient began hiccupping and the abdomen became very much distended. It was recognized at once that a condition of paralytic ileus existed, and feeling that the patient was too far gone for any prolonged operation, an enterostomy was performed. The original wound was opened and a loop of gut at once showed up. This being very much distended, several sutures were placed in the serous coat and thence into the fascia of the abdominal wall. An opening was then made in the center of this circle and the contents of the bowel began to escape. The patient's condition began to improve immediately the distention disappeared within the first twenty-four hours. Convalescence was rapid and, to my surprise, the artificial opening closed spontaneously.

EPIDIDYMOTOMY TREATMENT OF ACUTE GONORRHEAL EPIDIDYMITIS*

By T. Brannon Hubbard, M.D.,
Montgomery, Ala.

As a rule in private practice, and to a large extent in the Army, acute gonorrheal epididymitis has been treated by rest, applications of heat, cold, and various lotions, and by vaccines. Under such treatment recovery is slow, relapses are decidedly frequent and the suffering of the patient often excruciating. After the acute inflammation subsides there is almost always an area of induration in the epididymis which is not only a source of annoyance to the patient, but a focus of infection which furnishes the origin of subsequent attacks.

Besides great discomfort and loss of time from business, another, and from some standpoints, more important consequence of epididymitis is sterility. The usual medical treatment is useless in preventing this. We know that it is the common thing for a Fallopian tube that has become infected by the gonococcus to be occluded, although this is sometimes not the case. When the minute, thin-walled, greatly -convoluted tube of the epididymis is considered, how much more likely is obstruction to take place either from inflammatory products within its lumen or from pressure of subsequent inflammatory tissue from without. In the Army we must remember that the saving of days in hospitals and the prevention of relapses are objects pre-eminently desirable.

Judging from several months' experience in the Base Hospital, Camp Pike, Ark., the desired objects in the treatment of acute epididymitis were obtained by the operation of epididymotomy in selected cases better than by any other line of treatment. The operation of epididymotomy described by Hagner, of Washington, D. C., in 1900 was, with slight modifications, the one used.

An incision one and one-half to two inches in length was made in the anterior and upper part of the scrotum on the affected side and carried down to the tunica

*Read before the Medical Association of the State of Alabama, Mobile, April 15-17, 1919.

vaginalis. The point at which the tunica is reached is not always easy to recognize when the tunica is thickened and infiltrated, as often happens when the condition has lasted several days. The tunica vaginalis having been reached, it is then separated best by blunt dissection with Mayo scissors from the surrounding tissues and the scrotal contents with their enveloping tunic are delivered. The tunica vaginalis is then opened, care being taken not to injure the testicle as the tunica is often adherent to the testicle. However, in the first few days of the disease, there is more or less sero-fibrinous effusion present. The serous membrane having been freely opened and turned back, the inflamed epididymis is exposed.

In the first two or three days of the attack the epididymis is found greatly swollen, purplish-red in color, the process being chiefly in either pole, but often the whole epididymis is involved. Unless the inflammation is mild and subsides rapidly, suppuration usually takes place. Occasionally an abscess forms, which discharges externally, but usually the pus is slowly absorbed, leaving the well-known area of induration.

With a cataract knife or the sharp point of a scalpel numerous incisions are made in the serous covering of the epididymis, through which a needle is introduced and passed through the epididymis. In early cases only bloody serum escapes. Later on, a few drops of thin pus and sometimes abscesses of various sizes are evacuated. It would seem that the best time to operate is in the first three days before suppuration takes place. By relieving the pressure within the epididymis the suffering of the patient, which is most severe, is alleviated and suppuration and consequent obstruction of the canal are obviated. It may be argued that penetration of the epididymis may in itself do damage; but it seems logical to suppose that a clean puncture will heal with less chance of obstruction than that caused by the formation of an abscess. If thought necessary, a silk-worm gut suture is run through the epididymis as a drain. Hagner put in a drain and sewed the tunica back in its natural position. As pointed out to me by Major George Day, this leaves the chance of a future hydrocele, which is not unusual after epididymitis. To obviate this, the tunica is resected close to the epididymis and the edges stitched with fine catgut. The scrotum is then closed with three or four stitches of silk-worm gut, one or two drains of small rubber tubing or gutta percha being inserted and left for two days.

We operated upon about twenty-five cases during my service at Camp Pike. Of the first fifteen, of which I have complete records, the average time in the hospital was ten days, after which they were discharged back to duty. As a rule, they were out of bed three or four days after operation, and if in civilian life they could in most cases have returned to work. No recurrences were seen during the four months that I was in charge of the service.

Nearly all of our cases were dealt with under local anesthesia. By infiltrating the cord with one-fourth of one per cent. novocaine and infiltrating the skin in the line of incision, the whole operation can be done practically without pain. It goes without saying that great gentleness, particular care not to exert traction on the cord, and sufficient rapidity in operating so that the operation is not prolonged over twenty-five minutes, are necessary.

As was stated above, this operation is to be done in selected cases. It is quite evident that there are often mild infections of the epididymis which resolve in a few days with very slight damage to the organ. When, however, there is within the first few days after the onset of this complication of urethritis considerable swelling of the epididymis with much pain, tenderness, elevated temperature and leucocytosis, I consider epididymotomy not only advisable but imperative. In other cases in which the attack may not be so severe, but where the condition has recurred, an operation is also indicated.

In conclusion, we can say that by epididymotomy in acute gonorrheal epididymitis we obtain:

1. Immediate relief of the intense suffering;
2. Shortening of the disease;
3. Continuation of the treatment of the urethritis;
4. Less recurrence; and,
5. Less likelihood of sterility.

520-522 *Bell Bldg.*

RADIUM AND THE X-RAY IN GYNECOLOGY*

By Walter A. Weed, M.D.,
Birmingham, Ala.

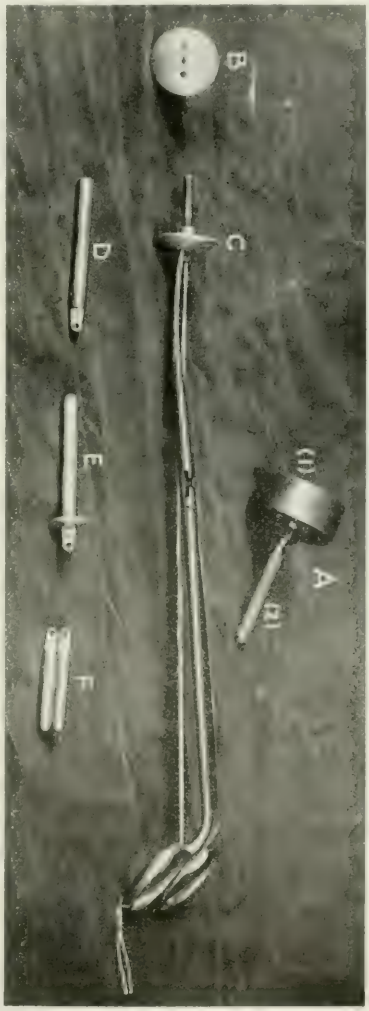
Radium in gynecology is an agent whose inestimable value has not been understood nor appreciated except by the limited few who have had an opportunity to view its effects and results from close range. Also the x-ray, since the discovery of the wonderful Coolidge tube and the perfection of suitable technique, is an agent of great potency, and one that is worthy of the efforts of our brightest minds. The two agents used separately and conjointly constitute a means of combating suffering in the female, whose effect is incontrovertible; and when better understood by the profession generally will mark the beginning of a new era in the treatment of certain diseases of women. Judgment and discrimination are, of course, necessary in the proper selection of cases for treatment.

With these truths in mind, I shall outline briefly the ideas formed from an experience of four years in the use of radium and the x-ray in gynecology.

First, as regards cancer of the breast, whether it be sarcoma or carcinoma, a radical operation should be done at the earliest possible moment, including the removal of the adjacent glands, unless the patient has passed the operable stage or is physically unable to undergo the necessary operation. If the case is no longer operable, or for other reasons can not undergo an operation, then the best thing to do is to use radium over any existing nodules and ulcerated areas, and the Coolidge tube, almost to the point of skin intolerance, over the entire half chest area. Of the two agents, x-ray or radium, I am

DESCRIPTION OF UTERINE APPLICATORS DESIGNED BY THE AUTHOR

A.—Applicator for applying radium to the cervix. (1) Cup-shaped part of applicator which holds from one to four tubes of radium. (2) Stem of applicator. The cup-shaped part (1) is introduced sideways into the vagina, turned and placed firmly against the cervix, after which the stem (2) is screwed into the part which projects at bottom of cup. Gauze is then packed securely around the stem, thus holding the applicator in position.



B C—Applicator designed especially for using radium within the cervix.

D—Usual type of intra-uterine applicator.

E, F—Modifications of same.

*Read before the Jefferson County (Alabama) Medical Society, Birmingham, April, 1919.

of the opinion that in this condition the x-ray is the more valuable if one were forced to depend upon either alone.

In superficial conditions, in which the Beta rays from radium can be utilized, radium has a greater inhibitory effect upon malignant cells than the x-ray. But in deeper conditions, in which the Beta rays can not be brought into action, the x-ray seems to be as effective as the Gamma rays from radium. The advantage of the Coolidge tube lies in the fact that an enormous amount of radiant energy can be distributed homogeneously over a large area in a short period of time. My opinion is that in the end this combined method of treatment will prevail, and that time will prove the correctness of my contentions.

As a post-operative measure the use of radium over the area of incision and of the Coolidge tube over the entire half-chest area of the affected side, should be carried out thoroughly.

In cancer of the uterus we have a field that is peculiarly suitable for the use of radium because of the anatomical construction of the parts involved. Also the value of radium may be greatly enhanced by the simultaneous use of the Coolidge tube, thus bringing into action rays from two directions at the same time. However, I do not, as yet, feel that radio-therapy should supplant surgery in the treatment of cancer of the uterus. It is still a debatable question, and until we have more exhaustive statistics on the subject, I shall continue to advise a radical operation on all operable cases, followed by the use of radium and the x-ray.

There is much to be said in favor of the combined treatment — radium in the uterus and the Coolidge tube from the outside. One very great advantage is that it is safe and does not jeopardize life, and the benefits derived can not be questioned. On the other hand, the radical operation is followed by a high mortality; the convalescence is long, tedious, and painful; and the end-results are far from satisfactory.

In the field of gynecology, it is in the benign conditions of the uterus in which radium, especially, has made its most spectacular showing, and in which the results are most convincing. Also, in this same field the x-ray has made a most creditable showing, while the conjoint use constitutes the ideal method of treatment, especially in the treatment of fibroid tumors.

It is now conceded by a large number of the leading gynecologists of America, and a still larger number abroad, that it is no longer necessary to operate as a routine procedure in the treatment of uncomplicated uterine fibroids. I say this with certain reservations. Large growths giving rise to pressure symptoms, or presenting evidences of degeneration, should be treated surgically. Even in the pedunculated variety of uterine fibroids the result of the combined treatment is equally satisfactory. With radium in the uterine cavity and x-rays from the outside there is no way for the tumor to escape thorough irradiation.

If the woman is less than thirty-five years old and desires offspring, surgical measures should be used, as the use of radium and x-rays in large doses invariably produces a menopause.

Another class of cases that I would like to mention is uterine hemorrhage from causes other than malignancy or fibroids. Radium in the treatment of uterine hemorrhage—both menorrhagia and metrorhagia—is as nearly a specific as anything that I know of in the entire domain of medicine and surgery. Of course it is necessary that we use proper discrimination in the selection of cases for treatment. Obviously, it would be wrong to treat a case of uterine hemorrhage due to retention of debris from an incomplete abortion, or in which there is a complicating pyo-salpinx. Also, in the case of a young girl other measures should be given first consideration on account of the production of an artificial menopause which will certainly ensue if the treatment is carried far enough. In this connection I might mention two cases of young women under twenty-five, in which I was able to regulate the flow without stopping the monthly discharges.

Persistent cases of uterine hemorrhage in women of more than thirty-five years of age should be treated by means of radium. It can be applied with but slight inconvenience to the patient. It is, one might say, absolutely safe in experienced

and careful hands, and is, for all practical purposes, certain in its results. To date, I have treated between sixty and seventy cases of uterine hemorrhage in which it was thought there was no malignancy with 100 per cent. satisfactory results. In fact, I look upon it as being by far the most satisfactory series of cases that I have ever treated.

In the treatment of uterine hemorrhage radium is preferable to the x-ray for the following reasons, viz: In the first place, it is somewhat safer, as there is no danger of a dermatitis. This, however, is scarcely a valid reason, as, in the hands of careful and experienced workers, the danger from the x-ray has been almost completely eliminated. In the second place, the radium-produced menopause is not so severe in its effects as is the x-ray-produced menopause. The accepted explanation of this phenomenon is that radium acts upon the endometrium primarily, and the ovaries secondarily; while the x-ray acts upon the ovaries primarily and the endometrium secondarily. Another reason is that radium may be used nearer the seat of the trouble except possibly in those cases due to an aberrant ovarian function, or to some disturbance of other internal secretory organs, as, for instance, the thyroid gland.

In conclusion, I would like to emphasize the necessity of the proper methods of the application of radium and a thorough knowledge of its correct dosage. It is not an agent to be used indiscriminately nor to be considered lightly. For example, one can leave fifty milligrams of radium, properly screened, in the uterus for twenty-four hours without danger, but if allowed to slip back into the vagina and remain, there probably would result both a recto-vaginal and vesico-vaginal fistula.

The personal equation has much to do with one's success in this work, as in a large percentage of cases it is necessary to modify the method of application to meet the individual requirements in order to obtain the maximum benefit from its use.

425-429 *Woodward Bldg.*

A NOTE ON NITROUS OXID-OXYGEN ANESTHESIA

By Addison G. Brenizer, M.D.
Formerly Lieutenant-Colonel, M.C., U. S. Army; Chief of Surgical Service, Base Hospital No. 6, A.E.F., Charlotte, N. C.

Gas-oxygen was used between September 10 and November 14, 1918, only, and during that period of 65 days anesthesias were given as follows:

Ether	473
Gas-oxygen	341
Local	87
Chloroform	7
	908

Gas-oxygen anesthesia was used during that short period, not that we did not prefer it, but because we were late in receiving our apparatus and were not able to secure more gas when our first supply was exhausted.

We have used ether overwhelmingly over other anesthetics, quite a number of infiltration anesthesias with novocaine and cocaine and but little chloroform. We have rarely used ethyl chlorid as a general anesthetic, but have used it frequently for small incisions locally. There was but one death we could attribute to an anesthetic and that was a death from chloroform in unskillful hands.

The tranquillity of the patient, the rapidity and ease of induction, the rapidity of recovery and the safety withal, gives nitrous oxid-oxygen quite an advantage over the other anesthetics in the first and second stages of anesthesia, especially in cases where an absolute muscular relaxation is not needed. Even when ether is superimposed for deeper anesthesia, the amount is reduced to a minimum to maintain the period of relaxation.

The types of cases where gas-oxygen is most valuable are:

1. Shock cases;
2. Cases where operation is to be of short duration;
3. Cases where the condition is profoundly bad and the post-operative period treacherous;
4. Chest cases, with the exception of those liable to show hemorrhage; and,

5. Infection of the respiratory tract.

Gas-oxygen is of great value in war surgery since the greater number of delayed primary and secondary suture of wounds can be made with the use of this anesthetic alone.

The special advantages of gas-oxygen in war surgery are:

1. Ease and rapidity of inducing anesthesia, thus preventing a struggle, enabling the immediate beginning of the preparation of the field of operation and the carrying on of several parallel operations without the one disturbing or distressing the other.

2. Rapid recovery and rapid exchange of patients between operating room and ward.

3. The relief from the care of recovering patients on the wards and the consequent liberation of the personnel for other duties.

All these points are important when the large number of secondary wound closures are considered—as many as sixty in a single day.

The comfort of the patient is a decided point.

There was no death nor injury from the anesthetic.

609 *N. College St.*

AUTHORS' ABSTRACTS

Surgery

Congenital Pyloric Stenosis: A Comparison of the Operative Procedures for its Relief, and a Contribution to the Technique. W. Lowndes Peple, Richmond, Va. Virginia Medical Monthly, Vol. 46, No. 2, May, 1919, p. 25.

This condition, once regarded as a pathological curiosity, is now recognized as a definite clinical entity. The symptomatology has been worked out until diagnosis is easy.

The pathology consists of a marked thickening of the circular muscle of the pylorus.

The problem is more than a mere mechanical one, for the patient is an infant six to ten weeks old and more or less starved.

The methods of relief are by posterior gastroenterostomy and the Rammstedt operation.

The former presents many difficulties of technique and requires much more time than the latter. The Rammstedt operation consists in a division of the circular muscle of the pylorus down to the mucosa. It is easily and quickly performed and bids fair to supercede the other procedure entirely.

The author reports four cases in detail, two done by each method with four recoveries.

He has devised a little table for these and other similar cases, which greatly facilitates the work. It is made of wood, is 28 inches long, 10 wide and 8 high. It has a head piece that drops back at any angle, a wire to screen the anesthetist and a drawer to be filled with hot water bags to maintain the body heat.

Basal-Cell Epithelioma. A. C. Broders, Rochester, Minn. Journal American Medical Association, Vol. 72, No. 12, March 22, 1919, p. 850.

The writer reports the findings in a series of 268 cases of basal-cell epithelioma from a series of 2,000 cases of general epithelioma examined at the Mayo Clinic. According to these statistics basal-cell epithelioma occurs in persons whose age averages 56.7 years, more often in males than in females, and more often in farmers than in any other class of people. Previous mole, wart, pimple, ulcer, etc., was associated with the neoplasm in 37.1 per cent. of the cases. A family history of malignancy and a personal history of injury play a negligible part. The duration of the lesions varied from three months to forty-five years; it averaged seven years and one month. Ninety-six and twenty-eight hundredths per cent. of the lesions occurred above the clavicle. Treatment in approximately 75 per cent. of all cases consisted in excision with the knife alone or one excision with the knife followed by cautery. Patients who had been treated with acids, carbon dioxid, etc., before coming to the Clinic were not so readily cured. Practically all the neoplasms in this series originated in the germinal layer of the epidermis of the skin. Basal-cell epithelioma can change into a squamous cell epithelioma or at least into an epithelioma in which the squamous cells predominate. Basal-cell epithelioma is of low-grade malignancy; not a single case of this series metastasized; 75.45 per cent. of the patients reported living have been free from the disease on an average of six years and six-tenths months. Fewer than one-third of the 35 patients known to be dead died of the disease. The theory that excessive exposure to sunlight is a cause of basal-cell epithelioma does not seem borne out by this series of cases as the hand, which is exposed to the sunlight at least as much as any part of the body above the clavicle, showed no lesions.

Sugar Tolerance in Cancer. G. L. Rohdenburg, Adolph Bernhard and Otto Krehbiel, New York, N. Y. The Journal of the American Medical Association, Vol. 72, No. 21, May 24, 1919, p. 1528.

Sugar determinations were made of the blood just before, and again 45 and 120 minutes after, the ingestion of 100 grams of glucose. While the normal individual, after ingesting the stated amount of glucose, shows in the blood stream a marked increase of sugar which reaches its maximum in about 45 minutes and then recedes to the normal figure, the individual with cancer shows a steadily rising figure which is higher at the end of 120 minutes than at 45 minutes. The report is but a preliminary one and suggests the possibility of using the method as a diagnostic aid.

Immediate Perineal Repair. Virginius Harrison, Richmond, Va. Virginia Medical Monthly, Vol. 46, No. 2, May, 1919, p. 33.

A complete success must be attained, or the operation is a bad one, or the operator did not know how to do his work. The most plausible explanation is that the obstetrician will attempt any operation without sufficient help, light and favorable surroundings, while the surgeon will demand all necessary conditions, and get them. All lacerations except the third degree can have the sutures placed while waiting for the placenta to be detached and expelled. At no time is the vagina freer from blood. The laceration can be seen, the sutures inserted with the use of very little additional anesthetic, and tied without pain after the completion of the third stage of labor.

A woman has a right to decline to take the anesthetic later if the immediate operation will give good clinical results. Sufficient number of operators report success for us to expect in most cases but little morbidity.

If one tries to make a good looking perineum by putting in too many sutures one often does not have a very strong result. One sometimes scrubs the sutures with strong antiseptics instead of pouring aseptic solutions over them and thereby irritates instead of cleaning and soothing. Sterile water is sometimes better than anything else in women with fat buttocks, as lysol or bichlorid solutions often irritate these people and may be a starting point of infection.

A doctor often does the best he can under the conditions, but knows that under other surroundings he could make a complete cure. Doctors must educate the people that obstetrics requires good help and must demand it if they wish to obtain good results.

The Corpus Luteum in its Relation to Amenorrhea, Sterility, Abortion and Pseudo Extra-Uterine Pregnancy. Edward H. Ochsner, Chicago, Ill. Illinois Medical Journal, Vol. 35, No. 5, May, 1919, p. 225.

In recent years some very interesting facts have been observed by veterinarians on the influence of the corpus luteum on sterility and abortion in the cow, and it has occurred to the writer that this data might be of great value in solving some of the similar problems in the human female.

It has been observed, for instance, that if a false corpus luteum remains unabsorbed in either ovary of a cow she does not come in heat, a condition which corresponds to amenorrhea in woman; and so long as the cow does not come in heat she, of course, remains sterile. On the other hand, as soon as this false corpus luteum is absorbed normally or expressed manually by the operating hand of the veterinarian, the phenomenon known as heat develops within twenty-hours. The writer has had a number of patients with premature menopause who gave the history of having suddenly stopped menstruating because of a severe chilling during a menstrual period and who have never menstruated since, and another considerable number of patients who, following a severe chilling or illness during a menstrual period, menstruated only at intervals varying from several months to several years, who have had the distressing symptoms of artificial menopause, who today should be laparotomized, an examination of the ovaries carefully made, and if an unabsorbed corpus luteum is found, it should be excised with the hope of relieving their symptoms, re-establishing menstruation and curing their sterility.

Veterinary surgeons have also made another very important discovery. Sometimes in expressing what they considered a false corpus luteum they have actually expressed or ruptured a true corpus luteum, in which instance one of two things has invariably happened: either the cow has bled to death in a very short time or she has aborted within from twenty-four to thirty-six hours.

The Cystoscopic Study of Urologic Conditions in Children. Frank Hinman, San Francisco, Cal. American Journal of Diseases of Children, Vol. 17, No. 5, May, 1919.

It is a simple procedure to cystoscope the bladder and catheterize the ureters in girls of any age and boys over four or five years. For boys under five years external urethrotomy must be done.

The indications for the above must be definite and carefully considered. The finding of residual urine in boys is strongly indicative of posterior valve formation, an early diagnosis of which may save the child's life. For bladder catheterization in infants, a No. 5 or 6 F. Albarran flute-end ureteral catheter is used.

Before cystoscopy, the evidence of the roentgen ray and of the kidney function should precede the decision, the former being much more reliable in children than in adults, because of the better definition and greater accuracy.

Functional tests should be done and the most practical is with phenolsulphonephthalein. Repeated tests should be made, because the possibilities of error are greater in children.

When a probable vesical or renal lesion is suspected by the preliminary investigations, then a cystoscopy or ureteral catheterization should be done, regardless of age. The author's youngest case was eleven months in a girl and three years in a boy.

In a series of cases of pyuria in girls, simple cystitis, bilateral pyelitis and unilateral pyelitis were differentiated. The quick and remarkable benefit following pelvic lavage with silver nitrate in infected cases is worthy of attention and the procedure requires five to ten minutes.

Two cases of bilateral involvement in cases of miliary tuberculosis have been diagnosed. Calculus formation has been recognized four times in boys from three to five years. Acute hemorrhagic nephritis has been studied in two girls, ages six and ten years. Investigations and diagnosis were made in a retroperitoneal sarcoma, a hypernephroma, and an insufficient horseshoe kidney, all later confirmed. Valve-like obstructions in the posterior urethra have been detected in two instances and were operated upon.

EYE, EAR, NOSE AND THROAT

THE PSYCHOLOGY OF ASTHENOPIA

By Thos. A. Cheatham, Jr., Ph.G., M.D.,
Birmingham, Ala.

Asthenopia can not properly be considered a pathologic entity, a diseased condition conforming to definite and fixed signs and symptoms which will indicate an abnormal state recognizable as such and amenable to established methods of therapy. Just as much so as headache, asthenopia must be looked upon as a predominant symptom or symptom-complex, indicative of one or more of many possible conditions involving the receptive, conductive or interpretive parts of the cerebro-ocular system. However, opinions differ. The following views are of interest and are worthy of consideration:

"By asthenopia is meant a sense of fatigue and discomfort in the eyes, produced by use."—(Posey.)

"Asthenopia is a disease, and is often spoken of as 'weak sight,' 'eye strain,' or 'eye stretching.'"—(Thorington.)

"Asthenopia is a technical name for the group of symptoms resulting from eye strain due to errors of refraction or fatigue of the ocular muscles."—(Fox.)

"Asthenopia or difficult vision is dependent upon many interrelated and interdependent conditions."—(Oliver.)

"Asthenopia is a convenient term which embraces the group of symptoms dependent upon fatigue of the ciliary muscle or of the extra-ocular muscles."—(May.)

ETIOLOGY

One factor stands out pre-eminently as the unquestioned cause of asthenopic conditions, viz., the great demands imposed upon the cerebro-ocular system by the habits and customs of present-day civilization. Nature and civilization are often conflicting forces. In recent times civilization has progressed by leaps and bounds, while Nature, as ever, goes on slowly, surely and consistently, unmindful of what men do. Civilization, like the slave-driver, recognizes only that there is a task to be done now regardless of the cost in time, suffering, health and lives. Nature demands that we conserve our strength and rest at the first signs of fatigue. If the average man of today should answer the call of Nature and actually rest when rest were needed, he would soon be rated as a laggard and could not obtain employment. He must labor on at high tension and, as a matter of custom, does not slow down during his hours of recreation. Nature has no time to produce the requisite protective changes necessary to meet these new and ever-increasing demands, and doubtless the most important practical instance of this fact is the failure of the eyes to functionate properly when fatigued, resulting, as a consequence, in the almost universal prevalence of refractive errors due to eye strain.

Artificial illumination and popular literature are co-partners in promoting the crime of asthenopia. Reverting to an era of less than a century ago, the softened rays of candle light or a flickering oil lamp were conducive to somnolence rather than a stimulus to added hours of ocular and mental effort. Books were owned with the same luxurious pride that we now possess a rare painting. Daily papers and weekly magazines were unknown just as were electric lights, rich in chemically active actinic rays which stimulate and excite the visual receptive centres. Man's day was from sun to sun and the oncoming of night meant hours of restful slumber. Thus the eyes were deprived of a privilege, endlessly instructive and pleasurable though it may be, which has contributed more toward advancing civilization than any other single factor. Yet, on the other hand, it has done more to abuse Nature than all other things in that this—the kindest gift of Nature—has been taxed to an extent far beyond all powers of endurance and the visual appreciation of all that is beautiful is distorted or denied because of the inability of our complicated and delicately-constructed eyes to do ten times the work to which our grandparents were accustomed. We of today look forward to the recreation and diversion of our newspapers and books after the day's work is done—and in all innocence (if not ignorance) that our eyes require the same amount of rest necessary for the competent functioning of our more grossly constructed organs.

Specialized occupations contribute gen-

erously to asthenopia. The watchmaker, the engraver, the bacteriologist, the chemist, even the oculist, has special demands made upon his eyes as a daily routine. Often one eye is at work at one focus while the other attempts to work independently at another, producing an uneven strain and interfering seriously with cerebral interpretation of retinal impressions. Here double and differing monocular vision replaces single binocular vision to which the cerebrum has been trained. In many of the lower animals the eyes are situated on the sides of the head and monocular vision is natural, but in man and all simiæ the rays of light entering the separate eyes are parallel when the eyes are at rest and a sense of perspective or the third dimension is appreciated by co-operative binocular vision which is impossible to the double monocular perception. A common instance is found in the improperly-trained typist who attempts to read notes at an average distance of twenty inches with the left eye and watch the keys at fourteen inches with the right. Unnatural effort creates unnatural conditions and asthenopic symptoms soon appear.

RELATIVE PSYCHOMETRY

The co-efficient of mental speed is influenced by race, climate, heredity, educational training, and above all, innate personality. The world's brainiest men have been Caucasians of good stock, residing in the temperate zone and who, by the force of personality and hard-earned educational attainments, have become leaders of men. The speed which may be attained by the brain under unusual conditions is almost beyond comprehension. Those who have fallen through space and survived often describe mental activity far in excess of that ever before experienced, and the events of a lifetime may pass in review during the few seconds of forced excitement. Dreams carry us on long journeys, seemingly consuming much time, almost before we can "catch forty winks."

With the eye, there is a marked difference. The motion picture producer tells us that the human eye can appreciate twelve separate and distinct pictures or "group visualizations" per second and that when pictures are projected upon the screen at the rate of sixteen per second, there is a fusion of images which gives the impression of continuous motion. This is an approximately accurate estimate of the speed of the untrained eye. However, the cerebro-ocular system may be educated to functionate accurately at a much greater speed. In reading, the beginner sees the individual letters making up a word; the advanced school child appreciates word and sentence pictures; while the literary student takes a stride possible only to trained eyes and comprehends lengthy sentences and short paragraphs as a single visual picture, calling upon the interpretive centres of the cerebrum to receive the essential thought without the incident detail. The more nearly normal the eye, the easier it will be to accomplish this advanced visualization: and unless perfection of cerebro-ocular co-ordination and co-operation is approached, if not actually attained, this is impossible. Normally, the cerebrum works much faster than the eye; and when the interpretive centres must work in unison and harmoniously with the receptive and conductive centres, concentration of thought serves to slow down the one to meet the normal speed of the other. When the eye receives imperfect, distorted, incorrect or aberrant impressions, the cerebrum interprets them as such and a weird fantasy of unsystematized pictures diverts concentration of thought and prevents intelligent visualization. The added effort and resulting fatigue incident to these conditions culminate in one of the most prevalent forms of eye strain, accommodative asthenopia.

CEREBRO-OCULAR CO-OPERATION

So closely associated are the functions of thought and vision that, in the average man, one operates automatically and synchronously with the other. Without concentration we see passively, conduct and interpret impressions mechanically, and the superficial, fleeting thought is developed only to fade out with mirror-like velocity,—a passing shadow which leaves no impression. This may be spoken of as involuntary visual and cerebral activity, carries with it no appreciable degree of effort nor consequent fatigue and forms only the incident or intermittent background to the impressive sight and associated thought generated by co-operative action among receptive, conductive and interpretive elements. Concentration of

thought is possible only when co-operation is perfected through training of the interpretive centres to intelligently translate a visualization, whether this be the actual retinal reception of an object or group of objects, or word pictures which stimulate, through training, the same interpretation conveyed by them. Memory is simply reference to systematized filing of concentrated thoughts. It must not be taken for granted that the origin of thought without visual stimulation or inspiration is impossible—the blind man is an inveterate thinker but can lay no claim to accuracy nor practicability of his thoughts. The man of genius, the real thinker or originator, has learned to see cerebrally at will as well as ocularly — from memory he selects crude material, correlates, culls, sorts, discards and groups the fragments of thought and moulds into new forms that which remains. The originality of thought may better be spoken of as the discovery of a new arrangement for parts and parcels of old thoughts, which, like the reaction taking place in the production of chemicals, creates end results with entirely different characteristics and properties.

PASSIVE AND PERMANENT IMPRESSIONS

Ocular vision accepts and conveys to the cerebral centers myriads of new impressions which are not retained — the few which are retained and stored away for future reference are those which are oft repeated ocularly or mentally through concentration of memory-reflection. The trained mind commands a good memory because it eliminates non-essentials habitually and retains the plain fact as a stimulus to cerebration on a given line of thought. Mental effort usually means a search for a lost train of thought or the culling of a mass of new thoughts for essential facts. Cerebral visualization acts alone in the former, while ocular vision is a necessary adjunct in the latter. Asthenopia is a frequent sequence of unsystematized mental effort dependent upon ocular vision, especially where the eye is incapacitated by disease, injury, refractive errors, muscular inequality or paralysis. The discomfort may amount to a mild headache or a severe neuralgia. It may interfere only slightly with cerebration or may absolutely inhibit cerebro-ocular co-operation.

TYPES

The pathologic condition exciting the asthenopic symptom-complex may be inter-ocular, extra-ocular or cerebral, producing respectively the accommodative, muscular and neurasthenic types. A combination or intermingling of types is often found.

ACCOMMODATIVE ASTHENOPIA

This may be due to fatigue of the ciliary muscle from excessive functional activity in emmetropic eyes, but is usually due to exhaustion following prolonged efforts to produce a focal compensation in the ametropic eye. Any form of refractive error may lead to asthenopia accomidativa, astigmatism and anisometropia being the more frequent. Quoting from deSchweinitz,

"Astigmatism may be responsible for the most aggravated types of asthenopia." * * * "Astigmatism is an ametropia of curvature, and the term is applied to that refractive condition of the eye in which a luminous point—for example, a star—forms an image on the retina, the shape of which image is a line, an oval or a circle according to the situation of the retina, but never a point."

Plainly, astigmatism produces a distortion of visual interpretation due to inequalities of the refractive media. For instance, when viewing the square letters such as H, E, M, N, T, P, or F, the perpendicular lines are seen clearly at one focus, which must be changed to accentuate the detail of the horizontal lines—two separate foci are necessary to see an object clearly; and this occasions repeated quick adjustments of the ciliary muscle, which doubles the work of that part of the eye and incidentally, that of every part of the cerebro-ocular mechanism.

Marked degrees of astigmatism are not so annoying as the milder form. In the former there is a definite strain and change, while in the latter there is a fluttering of muscular and nervous effort which soon becomes an irritant to the ciliary body and fatigue produces exhaustion, relaxation and flaccidity with consequent distortion of vision which remains uncorrected. These images are interpreted as received by the retina. Blurring and lack of detail replace clear-cut outlines and mental confusion follows. Automatically, cerebration is stimulated in an effort to rectify this abnormal condition; and unless relief through rest is forth-

coming, the over-stimulated interpretive centers become fatigued and do not functionate properly; mental lapses occur; concentration of thought is impossible, headache and somnolence follow; and the victim is forced to abandon, temporarily at least, all use of the eyes which requires accommodative effort. This condition demands the correction of refractive errors and very gratifying results are often obtained in a short space of time. The following is an example:

Mr. O. C., white, aged 37, a mine foreman, complained of severe frontal headaches, tired eyes, blurring vision and inability to read for more than a few minutes at a time. He had never worn glasses. Vision O. D. 10/100; O. S. 20/65. Homatropine was used as a cycloplegic. No muscular imbalance was found. The following prescription gave 20/20 vision in each eye:

O. D. + 75 S ○ + 1.50 cx 125
O. S. + 1.50 S ○ + 7.0 cx 105

The patient responded after ten days' continuous use of glasses; and relief is apparently permanent (8 months).

ASTHENOPIA MUSCULARIS

Asthenopia muscularis results from insufficiency, inco-ordination, weakness and strain of the external muscles of the eye (Fox). Here the pathologic condition is really that of heterophoria, and asthenopia musclaris is used as a convenient synonym to indicate the symptom-complex.

Strict orthoporia is rare. Small errors of the lateral muscles are often unimportant (deSchweinitz). However, where there is an appreciable degree of hyperphoria or hypophoria, prismatic correction is imperative. In every case of heterophoria rest must be obtained by the full correction of all refractive errors, and often it is advisable to resort to muscular exercises.

NERVOUS ASTHENOPIA

Hysterical or nervous asthenopia, according to Fuchs,

"consists in an incapacity of the eye for any continuous exertion, in spite of there being good visual power. Some complain that after reading or working for even a short time everything becomes covered with a cloud, so that the work has to be laid aside. When no strain is put upon the eyes there is generally no trouble. However, in other cases, the pains never entirely disappear, or a great sensitiveness to light is constantly present. In making the diagnosis, proof must first of all be forthcoming that there is no error of refraction nor of the muscular equilibrium to cause the trouble. Nervous asthenopia, like hysterical amblyopia, with which it is frequently associated, is often extremely obstinate, and sometimes for years prevents the patient affected by it from engaging in any serious occupation. In it, too, the psychical factor plays a great part in the treatment."

SYMPTOMS

The asthenopic symptom-complex may be visual, congestive or reflex. The visual symptoms consist largely in an inability to read for any length of time, particularly at night, without blurring of letters and drowsiness. Photophobia, flashes of light, and floating specks before the sight, double-vision, etc., also belong to this class. The congestive manifestations include congestion of the lids, conjunctiva, iris, and other parts of the eye predisposing to inflammation and aggravating any such condition present. The formation of stys, chalazions, and crusts upon the lids is usually due to ametropia. The reflex symptoms include headache, neuralgia, anorexia, dyspepsia, nausea, vomiting, choreiform attacks, insomnia, nightmare, etc. The severity of symptoms bears a direct relation to the general and neurotic temperament of the patient. Small errors of refraction in women often produce very alarming symptoms (Fox).

TREATMENT

The alpha and omega of treatment for asthenopia is summed up in one word—rest. In the accommodative and muscular types, we rely largely upon correcting lenses and prisms. Atropinization and complete abstinence from near-work may be necessary. In the neurasthenic type, the use of electricity is often advisable along with complete physical and mental rest. Existing pathological conditions of the nose and accessory sinuses should be treated without delay, provided there is reason to believe that they have a direct influence upon the ocular condition. Foci of infection in the teeth, tonsils, middle ear, etc., demand radical treatment because of the reflex neuroses produced by the absorption of toxins.

Prophylaxis will be the imperative treatment of the future and will become more or less universal through teaching the school child how to care for his eyes and the great importance of sight conservation. This should begin in the primary grades and end only upon graduation.

Moral:

To be civilized is human,
To be civil to eyes, divine.

317 *First National Bank Bldg.*

Southern Medical Journal

JOURNAL OF THE
SOUTHERN MEDICAL ASSOCIATION

Published monthly. Price $3.00 the year; 25 cents the single copy.
Address Southern Medical Journal, Empire Building, Birmingham, Alabama
Entered at the Birmingham, Ala., postoffice as second-class matter under Act of Congress, March 3, 1879

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Vol. XII OCTOBER 1919 No. 10

EDITORIAL DEPARTMENT

SOUTHERN MEDICAL ASSOCIATION
Asheville, North Carolina, "America's Beauty Spot"
November 10-13, 1919

THE ASHEVILLE PEACE MEETING

The American Medical Association and a number of state societies have had "victory meetings," celebrating the great achievements of American arms, and commemorating the glorious part played by the medical profession during the greatest crisis in our history. These meetings have been great successes, but it now seems appropriate to have a peace meeting. The eleventh of November, the second day of the meeting of the Southern Medical Association, will be the first anniversary of the signing of the armistice, when Germany admitted her defeat and begged for terms of peace. Since the war has been over for a year, physicians, like men engaged in other activities, are anxious to be back on a peace basis. They desire to take stock, i. e., to determine the value of the medical and surgical procedures which were in use prior to the war, and then add to their armamentarium the advances that have been brought about through the military experiences of physicians in all branches of medicine and surgery.

The officers of the various sections in the Southern Medical Association have planned their programs for a "peace" meeting and have arranged for very few papers on war medicine and surgery. The only papers on the program relating to military experiences are those which teach lessons that may be applied to civil practice. A glance at the programs of the scientific sections will show that the section officers have been active and efficient in their efforts to make the "peace meeting" of the Southern Medical Association a great success.

THE GENERAL SESSIONS

Many physicians have commented upon the value of the general sessions of the Southern Medical Association. We believe that a more attractive program for medical men has never been arranged than that for the general sessions at Asheville. On Monday evening the program has been gotten up by the officers of the Section on Public Health. On Tuesday morning the general session will be given over to the Addresses of Welcome, the President's Address, and the Orations on Medicine, Surgery, and Public Health. On Tuesday evening and again Wednesday evening, there will be general sessions which will be of particular interest to medical men in all lines of work. If the members of the Southern Medical Association will read the programs for the general sessions and for the various sections, as published in this number of the JOURNAL, they will feel proud of the scientific work that is being done by Southern physicians; and they will want to go to Asheville to receive the benefits of the accumulated wisdom and experience of many of the leading men in all branches of medicine and surgery.

AMERICAN CHILD HYGIENE ASSOCIATION

We are honored this year by having as our guests the American Child Hygiene Association, formerly the American Association for the Study and Prevention of

Infant Mortality. This, their tenth annual meeting, is the first time they have honored the South with their presence. They expected to meet with us last November, but transferred their meeting to Chicago when we were obliged to postpone ours.

This Association deals with the entire period of childhood from the prenatal through school age and adolescence. A complete program of this meeting appears in connection with the program of the Southern Medical Association.

The social features of the Southern Medical Association have always been delightful and this year will not be an exception to the rule. With the natural attractions of Asheville and with the entertainment planned by the "Mountain City" for their guests when not attending the scientific and general sessions, every minute of the waking hours of those who attend the November meeting will be "filled with sixty seconds" of profit and pleasure.

THE UPBUILDING OF A GREAT MEDICAL ASSOCIATION IN THE SOUTH

Dr. Stuart McGuire, in his Presidential Address at the Richmond meeting of the Southern Medical Association, in 1914, used the word "regional" as referring to the need for a great medical organization in the South. Since then another great American has used the term "regional understanding" as applied to the Monroe Doctrine. There is, therefore, good authority for the word "regional," even though it has grown in its scope to take in a hemisphere.

The region known as the South consists of sixteen states and the District of Columbia, which comprise about one-third the territory and one-third the population of the United States. It has the balmiest climate and the most fertile soil of any other part of the world; but the same bright sunshine and the gentle rains which make its Elysian fields an agricultural paradise, also provide favorable conditions for the development of the organisms of tropical diseases which have given this great region of the country problems that are of common interest to its medical men.

The South has always had great men in all branches of medicine, and while many Southern physicians and surgeons are prominent in the National associations, there has been felt the need of an independent medical association to bridge the gap between the state and National medical organizations. Then, too, it must be admitted that while Southern men are not prejudiced against those of other sections of the country, they have a pardonable pride in the history of traditions of the South.

These are some of the reasons for the existence of the Southern Medical Association, and its phenomenal success is proof of the need for such an organization.

INCREASE IN MEMBERSHIP

The Southern Medical Association has grown from a membership of less than 300 to more than 5,000 in a decade. Its membership is made up of practically all the leading men in the sixteen states who have united to build up an organization that in the excellence of its scientific programs is not excelled by any medical association in the world.

The Southern Medical Association has grown from "the top" in that it has been easier to interest the men high up in the medical profession than the average physician, who does not always take the same interest in medical organization. The problem now is to get the men in general medicine, the practitioners of medicine, who need most just what the Southern Medical Association stands for, and who

also need the message that its JOURNAL carries each month.

The Southern Medical Association has been built up by its progressive members, who have induced their medical friends to come into the Association. There are 15,000 more physicians in the South who are eligible to membership in the Southern Medical Association. Many of them would come into the organization and thus become better equipped for practicing their profession if those who are familiar with the Association and its JOURNAL would unite in an effort to increase membership.

EVERY REPUTABLE DOCTOR IN THE SOUTH SHOULD BE A MEMBER

During the World War it was not possible to continue the work of upbuilding the Southern Medical Association, but now that the South is so prosperous, and with the medical profession feeling the need of organization more than ever before, it should be easy to induce physicians to unite with a medical association which is free from politics and which has for its sole purpose the development of scientific and practical medicine, surgery, and public health work in the South. Dr. W. W. Crawford, of Hattiesburg, Miss., in 1915, said that the time will soon come when physicians residing in the South will be ashamed to admit that they are not members of the Southern Medical Association. That time has almost arrived, but there are still those who do not know of the benefits to be derived from being affiliated with the Southern Medical Association, not the least of which is the privilege of reading in the SOUTHERN MEDICAL JOURNAL original articles by the best men in all lines of medical work in the South.

The coming convention at Asheville, November 10-13, will be one of the greatest medical meetings ever held in the United States, and every physician in the South should receive the benefits of the papers and discussions to be heard there. The progressive physician who can possibly leave his work should go to Asheville, but if it is so that he is deprived of the privilege of hearing the discussion, by the leading men of the country, on matters in which he is most interested, he can read the transactions in the SOUTHERN MEDICAL JOURNAL.

PRESIDENT WILSON'S ILLNESS

The serious illness of President Wilson has been a matter of grave concern to every right-thinking person in the United States. Recent reports, however, indicate an improvement in his condition; and it is hoped, and believed, that he will soon be restored to his normal health and wonderful efficiency.

The "nervous exhaustion" of President Wilson is not surprising considering the terrific strain under which he has been working for years. The wonder is that he has not broken down before, because no other man in the history of mankind has ever had such great responsibilities throughout so long a period of time. It should also be said that no statesman has ever measured up to his opportunities, with such far-reaching achievements to his credit, as has our President.

No man has ever changed the existing order of things without having to lead the struggle of the progressives against the reactionaries; and President Wilson has been the leader in many a battle royal for righteous causes, first in New Jersey, and then as President of the United States, through the most serious crisis in history, when the whole world looked to him for leadership. Every victory that he has won, in his efforts to make the world a better place in which to live, has been at the cost of nervous energy; but it had seemed up 'till a few weeks ago that there was no limit to the physical endurance of

this wonderful man. Then the nervous crash came, and he has been forced to give up his work temporarily for the recuperation that can come only from complete mental and physical rest.

THE PRESIDENT'S WONDERFUL EFFICIENCY

President Wilson's marvelous efficiency and his surprising endurance have been due partly to the rational, hygienic life that he has led, under the direction of a great physician, the first of the specialists who study men in health with the idea of keeping them well, and with thought also of increasing efficiency. It is fortunate for Mr. Wilson that in entering upon the duties of the presidency he placed himself under the care of Dr. Grayson, who had been a medical aide to President Taft, because at that time he was far from being a robust man.

President Wilson is of a slender build, the type of man who is prone to nervous collapse. For many years he had burned the "midnight oil" in studying social and political science and history, and in the pursuit of other knowledge which prepared him for the duties of the presidency as no man had ever been before. Mr. Wilson's friends knew that he had the ability and the training for the duties of president, but there were those who feared that he could not stand the physical strain. This fear, however, was dissipated very soon by the fact that President Wilson seemed to gain in physical strength and vigor in a few months after entering the White House. The secret of his improvement even while bearing the burden of tremendous responsibilities was that he had the good judgment to select the right kind of doctor for his medical advisor, and what is just as important in getting results in preventing and treating disease, he followed the instructions of his physician.

MR. WILSON'S FUTURE HEALTH

There have been many rumors current about the condition of President Wilson and some small souls, for political purposes, have continued their persecution of a just and great man even when ill; but there is no occasion for alarm, either as to immediate changes for the worse in the President's condition, or as to his ultimately complete recovery. Those who know Admiral Grayson recognize that honesty and sincerity are among his distinguishing traits of character; and the bulletins which he issues regarding the President may be relied upon as stating symptoms and his condition as they exist. If one will disregard the rumors and read the statements made by the President's physician, he will get the facts. Admiral Grayson feels that the American people have a right to know the important facts regarding the illness of the President of the United States, and he is giving the public the exact truth regarding his distinguished patient.

The question as to whether or not the President's illness will interfere with his position as the world's greatest statesman is one that is giving anxiety to his friends and enemies. THE JOURNAL does not claim to know more of President Wilson's condition than any one can learn from the published statements by his physician; but judging from other cases of "nervous exhaustion" which the writer has known, the prediction is hazarded that the President has many years of usefulness and happiness ahead of him. Indeed, his recent breakdown from overwork may help to lengthen his life over his normal age of expectancy, and it may increase his efficiency during the remaining years of his life; because it has taught him the needed lesson that man must learn his physical limitations and live within them.

FOOD SUBSTITUTES

During the World War, when there was a scarcity of food in every country in the world except the United States, a number of substitutes for various foods were quite generally used. It is probable that because of their cheapness some of these food substitutes may continue in use in European countries and that they may be introduced into the United States.

Saccharin was used every day for two or three years by millions of French, British and Italians, who were deprived of the use of sugar by the exigencies of war. Saccharin was not only used in sweetening coffee, tea, and coca, but it was employed, to a large extent, in the manufacture of jams, jellies, and preserves, which were the only forms of sweets obtainable in many parts of France, England, and Italy. Saccharin is a coal-tar product, and being 280 times sweeter than sugar, it will probably always be more economical than sugar; and with the present sugar shortage it is likely to come into general use by the manufacturers of sweets in the United States. It is, therefore, important for the public to know that saccharin may cause deleterious effects on the human body, if used to excess.

Whether or not the continued use of small quantities of saccharin is harmful is yet to be determined. Apparently saccharin in the quantities used in food is not likely to produce acute poisoning, but the cumulative effect of this coal-tar derivative should be investigated. The U. S. Department of Agriculture is authority for the opinion that saccharin in food for normal persons is undesirable and perhaps harmful.

SUBSTITUTES FOR BUTTER

Butter substitutes are being used quite extensively and, with the increasing price of this food, which is generally considered indispensable, it is probable that many vegetable fats will be added to those now in use. That a few of the vegetable fats are poisonous is certain, and it is possible that some of them may be placed on the market before their poisonous properties are recognized. Jordan mentions an outbreak of food-poisoning in Hamburg and a number of other German cities in which a butter substitute, "maratti-oil," caused several hundred cases of illness. This "maratti-oil," derived from a tropical plant (Hydrocarpus) was proved to be toxic to animals. The Germans have suffered more from the lack of fats than from the shortage of any other article of food. In February, 1918, only 50 grams of margarine were allowed to each adult in Germany every ten days, and they are using fats from every available source as substitutes for butter and lard. It may be that we shall learn of other poisonous oils from the Germans. It is hoped that the Germans may make observations on the effects in nutrition by the absence of butter fat in the diet of human beings. MacCollum, of the Johns Hopkins, has shown that with rats, animals which eat the same food as human beings, butter fat is essential to proper nutrition.

The Germans now use "egg powder," "milk powder," "meat powder," and other substitutes for the foods of which they were deprived by the British blockade of their ports. These substitutes were said to have been made largely of synthetic chemical products. The Germans were also deprived of the use of fruit juices, having had no oranges, lemons, nor other tropical fruits for four years. They used synthetic acids instead, and we may expect, when our markets are open to the Germans, that the manufacturers of soda water and other soft drinks, which are so extensively used in the United States, will take up these substitutes even more than is now the case.

SUBSTITUTES USED IN SOFT DRINKS AND COFFEE

Soft drinks have become so much a part of the food and drink of millions of persons that their composition and physiological effects should be thoroughly investigated. Many of them contain saccharin and artificial acids and other chemicals which may be as harmful as benzoate of soda and other preservatives of meats which have been condemned by many food experts. Saponin, a chemical which is used in soda founts to produce the "foam" on fot drinks, is said to be injurious to the red corpuscles. Many soft drinks purposing to be substitutes for beer and whiskey contain the habit-forming drug caffein, which in excessive quantities raises blood-pressure, and which may tend to bring on the degenerative diseases that are responsible for our increasing death rate after middle life.

Coffee substitutes are becoming more widely used, as educated people are beginning to understand the physiological effects of caffein, which is responsible for the coffee habit. Most of them contain chicory, and they are probably harmless. The Germans used parched acorns and parched barley as substitutes for coffee. It is probable that all of the coffee substitutes, since they are generally free from caffeine, are less harmful than the infusion from genuine coffee beans. A process has been discovered whereby the caffeine may be extracted without interfering with the taste or appearance of the coffee beans, which, when parched, ground and made into a hot infusion, make real coffee, though without the physiological effects of caffeine. Caffeineless coffee seems to be an accepted fact in the diet of those who like the taste of coffee, but who do not desire to take a drug regularly.

FISH-BORNE INFECTIONS

The meat shortage during the war made it necessary to popularize the use of fish and other proteins which could not be shipped to Europe, and in the past two years the fish industry has increased enormously. The public has learned that the protein from fish has just as high food value as meat from beef and pork; and that, from the economical viewpoint, its use as a food lessens the high cost of living. It is, therefore, probable that the increased consumption of fish will continue. The flesh of fish being soft, is much more liable to bacterial contamination than the firmer meats, and "ptomain" poisoning from eating fish has been reported frequently. We now know that it is not the ptomaines in fish that cause the symptoms of poisoning, but that it carries infections as does meat and other food. The increased consumption of fish makes it necessary for physicians to familiarize themselves with the sources of danger from eating this delicious and nutritious food.

Fish-poisoning, "ichthyotoxism," is of frequent occurrence. It may originate from a piscine disease with which the fish was infected during its life, but, generally speaking, fish-poisoning results from contamination by fishermen, fish dealers, cooks, and others who handle the fish from the time they are caught until they are served for eating. It is undoubtedly true that fish are susceptible to epidemics which destroy great numbers of them, and unscrupulous fishermen have been known to sell fish that have died in piscine epidemics. The character of the diseases which may infect fish is not thoroughly known, but in one epidemic an organism very closely resembling the proteus vulgaris has been found in fish that died of disease.

Fish that grow in polluted waters may

become infected with a number of pathogenic organisms, and these organisms and their toxins may produce symptoms of food-poisoning. The proteus bacillus, the para-typhoid bacillus, the colon bacillus, and the Bacillus enteritidis have all been found in fish. Brieger has isolated the Bacillus botulinus, and the poisonous alkaloid mytilotoxin from decaying fish.

POISONOUS FISH

It has been noted that the flesh of some fish is quite wholesome at times and poisonous at times. It is said that the bluefish, which is quite generally used for food, may become poisonous, if it happens to feed upon the poisonous "mossbunker," sometimes used as bait by commercial fishermen. The alkaloids contained in the mossbunker are thought to permeate the meat of the fish to such an extent that it becomes poisonous even after cooking. It is stated that the sturgeon, pike and other fish are not poisonous except during the spawning season. At such times their roe and flesh may be mildly toxic.

A number of fish in foreign waters are normally poisonous to human beings. The blowfish, or Tetraodon hispidus, found in the waters of Hawaii, are said to be quite poisonous, being called "muki-muki," or "deadly death," by the natives. The "fugu" fish in Japanese waters are reported to have caused many deaths. The "puffers" and "balloon" fish belong to the poisonous varieties. The fish which are considered normally poisonous are most frequently found in tropical countries, where the water is warm. This seems to indicate that the poisonous quality results from toxins due to bacteria that are ingested by the fish either with marine plants or with animals. Clark, of the United States National Museum, states that the flesh of the Greenland shark has produced poison, although the flesh of other sharks is quite harmless.

Fish caught with a hook and allowed to die very slowly are said to decay more rapidly than those killed immediately after they are caught. It is a law in Europe that fish caught with a hook or net must be killed immediately, just as beef is butchered.

It has been found that the more thoroughly fish is cooked the less danger there is from eating it, because heat destroys many bacterial toxins. However, some of the toxins that are found in the flesh of fish withstand prolonged boiling.

Canned fish, particularly canned salmon, has been thought to be the cause of a number of cases of so-called "ptomain poisoning." This is most apt to occur when the cans have been opened and a part of the contents used for one meal and the remainder kept for a day or two before being served. Heat destroys most of the toxins with which fish is liable to become contaminated, and it is therefore advisable to cook it thoroughly, particularly if it is not known to be perfectly fresh. It is surely safest to cook canned salmon and other canned or preserved fish before it is eaten.

Book Reviews

Concerning Some Headaches and Eye Disorders of Nasal Origin. By Greenfield Sluder, M.D., Clinical Professor and Director of the Department of Laryngology and Rhinology, Washington University Medical School, St. Louis. With 115 illustrations. St. Louis: C. V. Mosby Company. 1918.

With characteristic plodding thoroughness, the author has brought forth a classic treatise on the bewildering and obscure phenomena accompanying sinus disorders. He clearly states the lamentable obscurity of some of these conditions, in one sentence in the preface: "I soon learned that the cessation of the nasal suppuration was not always the cure of the case." The introduction by Jonathan Wright is in itself a comprehensive monograph on pathological processes in the nasal sinuses.

The book is beautifully illustrated and the text is so clear and readable and so thoroughly covers the field, that no medical library would be complete without it.

ON TO ASHEVILLE*

After the flattering editorial and the excellent special article on Asheville in the September number of the SOUTHERN MEDICAL JOURNAL, further emphasis upon the charms of that beautiful city might seem superfluous. Its praises as the "playground of the South" and the "gem of the land of the sky" were sung long before the Southern Medical Association accepted the invitation of the Buncombe County Medical Society to meet at its home in 1918.

It required a war and a pandemic of influenza to cause a postponement of that meeting, and now, a year late, the thirteenth annual meeting of the Southern Medical Association is to become an accomplished fact on November 10-13, 1919, in the metropolis of western North Carolina.

"On to Asheville in November!" is the slogan, and, with apologies to a certain famous motor car company, we may be permitted to paraphrase, "Ask the man who's been there!"

The medical profession of Asheville and the people of Asheville stand ready with a warm and hearty welcome for the Southern Medical Association. What the "home" profession can do it has done and will continue to do. Our hotels, our boarding houses, our homes, are open to you of the Southern Medical Association that will attend the meeting in November. Our hotel committee will do its utmost to see that all who have not made reservations ahead of time are housed as comfortably and conveniently as possible during their stay. Our entertainment committee and our reception committee have worked and will work to the end that all seeking diversion will not be disappointed. On the score of diversion we are not lacking. Our Country Club, with one of the best 18-hole courses in the South, is at the disposal of the Association golfers; our mountains, our scenery, our climate, belong to all alike—always have, always will; and our good roads will, we trust, pass rapidly beneath the wheels of motors conveying our guests to and from the many vantage points that surround us.

Asheville stands pre-eminent among the cities of the entire South as a convention city. Wonderfully situated on a plateau surrounded by the high mountains of western North Carolina, with an unsurpassed climate, magnificent scenery, good roads, an excellent Country Club, many good hotels, it beckons the tourist both winter and summer, and stands with its doors open to welcome the Southern Medical Association.

It may be well to enumerate some of the assets of Asheville and to mention some of the possessions and acquisitions to which she points with pride.

Asheville is a city of some 35,000 inhabitants located in the heart of the Blue Ridge mountains and easily accessible from North, East, South and West by means of the Southern Railway, branches of which run to Asheville from Salisbury (141 miles) on the east, Spartanburg (75

*From the Sub-Committee on Publicity of the General Committee from the Asheville profession.

A GROUP OF ASHEVILLE'S FAMOUS HOTELS

miles) on the south, and Knoxville (130 miles) on the west. The altitude of the city varies from 1,980 to 2,500 feet, and the mean all-year temperature is 55°.

For many years Asheville has been the metropolis of western North Carolina, and has been looked upon as one of the most progressive cities in the entire State. Educationally it ranks second to none, with a high school, the new building for which has just been completed at a cost of $300,000, and with 16 elementary school buildings and other school property valued at over $750,000. In addition to these evidences of public education, there are to be mentioned among the private schools the Asheville School for Boys, an excellent boarding school of the highest standards situated 6 miles from the city, the Bingham Military School established in 1793, the Normal and Collegiate Institute for Girls, the Grove Park School, St. Genevieve's College for Girls, and many other smaller institutions.

A good library containing some 20,000 volumes is located in the center of the city and maintained by the city government, the reading rooms being open until 10 P. M.

Asheville money is well cared for by six banks, with deposits of about $9,000,000 and assets of approximately $10,000,000.

All denominations are represented in the Asheville churches, which are especially cordial in their welcome of visiting strangers.

Asheville's water supply is unsurpassed, coming a distance of 16 miles from the slopes of Mt. Mitchell, the highest peak east of the Rocky Mountains, where the city owns a perfectly protected watershed of 17,000 acres. For fire purposes and other emergencies there is a reservoir with a capacity of 5,000,000 gallons.

Asheville hotels are abundant and adequate. Among them may be mentioned the Grove Park Inn, "The Finest Resort Hotel in the World," the Battery Park Hotel (hotel headquarters), the Manor, the Langren, the Margo Terrace, the Swannanoa-Berkleley, the Cherokee Inn, and numerous other smaller ones, to say nothing of many boarding houses of varying sizes.

The Asheville Country Club has an excellent 18-hole golf course with turf greens, 5 tennis courts, a most attractive club house, and is within 15 minutes from the center of town by street car and 10 minutes by motor. Two miles to the south of Asheville is the picturesque village of Biltmore, built by the late George W. Vanderbilt, and adjoining his magnificent estate of 100,000 acres, threaded with perfect roads, and open to the public three days each week on payment of a nominal fee, which is devoted to the upkeep of the roads. A wonderful automobile road to the top of Sunset mountain, which lies directly to the east of Asheville, enables the visitor to obtain in less than one hour a

ALONG SUNSET MOUNTAIN BOULEVARD. YOU WILL NEVER FORGET YOUR RIDE TO TOP OF SUNSET MOUNTAIN

marvelous view of the surrounding mountains for miles in every direction. This ride is one that no member of the Southern Medical Association should fail to take, and it, and it alone, will repay him for the entire trip to Asheville.

For those contemplating a trip to Asheville by motor, which entails traveling over good roads in the midst of gorgeous mountain scenery, the following brief itinerary is appended:

TO ASHEVILLE

From Charlotte, N. C. (163 miles), via King's Mountain, Chimney Rock and Hickory Nut Gap.

From Salisbury, N. C. (150 miles), via Statesville, Old Fort, Ridge Crest and Black Mountain.

From Greenville, S. C. (69 miles), via Tuxedo, Flat Rock and Hendersonville.

From Spartanburg, S. C. (75 miles) via Landrum, Tryon, Saluda and Hendersonville.

From Knoxville, Tenn. (140 miles), via Southern National Highway, which is a part of the Dixie Highway system through Morristown, Tenn., Hot Springs, N. C., and Marshall.

Medically, Asheville has ever been to the fore, and the Buncombe County Medical Society, the vast majority of whose members are Asheville doctors, is considered one of the leading county societies of the State. During the war, 33 % of the Buncombe County physicians served their country at home and abroad.

Asheville has two hospitals within the city limits and a third, the Clarence Barker Memorial Hospital at Biltmore, has a staff composed entirely of Asheville men, and is really one of Asheville's hospitals. The Asheville Mission Hospital, established many years ago, has grown to a capacity of 100 beds, has free and pay wards for men and women both white and colored, two operating rooms, an x-ray plant, a laboratory, a four-story concrete and brick private patients' pavilion, and an excellent training school for nurses. The Memwether Hospital, smaller than the preceding, is for private patients only, and is a fully equipped institution in every way, having also a capital training school for nurses. The Biltmore Hospital has a capacity of 40 beds, wards, private rooms, a special obstetrical wing and delivery room, a modern operating plant and a first-rate training school. All three hospitals have staffs that give their attention to the ward patients and in addition any reputable physician in good standing can send and treat his private patients in any of the hospitals.

Asheville being known as a health resort for the tuberculous, there are in addition several private or semi-private sanatoria for the accommodation of such patients, as they are not received in the gen-

eral hospitals save in cases of emergency for operative procedures, etc. Buncombe County has a whole-time Health Officer, and Asheville has a most efficient City Health Officer and Board of Health, which has enacted meat inspection, milk inspection, anti-fly crusades, compulsory vaccination of school children, the establishment of a city laboratory, a long list of reportable diseases, compulsory fumigation of rooms after vacation by a person suffering from a contagious, communicable or infectious disease, and many other valuable and salutary public health measures.

Asheville also boasts of an exceedingly efficient and convenient street car service, a new and imposing Masonic Temple, an excellent Y. M. C. A. building, where will be located the General Headquarters of the Southern Medical Association, an adequate and up-to-date fire department with automobile apparatus, more paved streets than any city of its size in the country, and stores and shops the equal of those to be found in communities having a population of 100,000.

This, then, is a brief description of the city that welcomes the Southern Medical Association in November, 1919. By the doctors and laymen alike, the Association is welcomed whole-heartedly, and its coming is awaited with enthusiasm.

We invited the Southern Medical Association to meet here last year because we wanted it. Our pleasure having been inevitably postponed, our anticipation has increased, and it is with a doubled earnestness and gladness that we welcome in 1919 the largest and most notable gathering of Southern medical men. We want to know you, and we want you to know us. We want you to come eager to arrive; we want you to leave loath to go and glad you came; we want you to feel that after November, 1919, whenever tired, satiated with your work, anxious for a change of scene and surroundings, the first thought that will come to your mind will be the present slogan of the Southern Medical Association: *"On to Asheville!"*

BRIEF POINTERS FOR OUR GUESTS

If possible all trains will be met by members of the Buncombe County Medical Society, who will wear distinguishing badges and will give all possible information.

General Headquarters at Y. M. C. A. Building, Haywood Street. Take Riverside car at station, which passes the door, or take Charlotte Street car at station and get off at Haywood Street; walk up Haywood Street about 150 yards to Y. M. C. A.

Members of the Hotel Committee will be at the Y. M. C. A. to give aid in securing hotel and boarding house accommodations for any who may have any difficulty in getting comfortably fixed.

PRINCIPAL HOTELS

Battery Park Hotel (Hotel Headquarters)—Take any street car at station.

Grove Park Inn, "The Finest Tourist Hotel in the World"—Take Charlotte Street car at station.

The Manor—Take Charlotte Street car at station.

Margo Terrace—Take Riverside car at station.

Swannanoa-Berkeley Hotel—Take Riverside car at station.

Langren Hotel—Take any car at station.

COMMITTEES

The committees are as follows—they collectively and individually await your commands with pleasure:

Chairman of the Whole: Dr. H. H. Briggs.

Reception: Drs. W. P. Herbert, Chairman; W. L. Dunn, and C. L. Minor.

Finance: Drs. J. W. Huston, Chairman; Eugene R. Cocke, Dan Sevier, and C. P. Ambler.

Exhibits: Drs. A. W. Calloway, Chairman; O. F. Eckel, and Jere E. Cocke.

Section Meeting Places: Drs. F. W. Griffith, Chairman; C. C. Orr, L. W. Elias, and W. J. Hunnicut.

Hotels: Drs. M. H. Fletcher, Chairman; A. T. Pritchard, R. R. Smith, R. C. Scott, and W. L. Grantham.

Entertainment: Drs. C. V. Reynolds, Chairman; M. L. Stevens, and Joe Adams.

Publicity: Drs. C. H. Cocke, Chairman; C. D. W. Colby, and P. H. Ringer.

PROGRAM OF THE SOUTHERN MEDICAL ASSOCIATION

Thirteenth Annual Meeting, Asheville, North Carolina
November 10, 11, 12, 13, 1919

PROGRAM OF ENTERTAINMENTS

At the request of the officers of the Association, the Asheville profession has limited its entertainment.

Tuesday, November 11, 9:30 p. m. Reception and dance for the President, members and guests of the Southern Medical Association at the Battery Park Hotel.

Wednesday—Auto ride to top of Sunset Mountain. A trip you will never forget.

Ladies' Entertainment. Entertainments are being provided for the visiting ladies.

SPECIAL MEETINGS

Monday, November 10. Sixth Annual Meeting of the Southern States Association of Railway Surgeons, auxiliary of the Southern Medical Association. Program on page 643.

Monday, November 10. Conference on Medical Education. Program on page 645.

Monday, November 10. Southern Gastro-Enterological Association. Program on page 645.

Monday, November 10. National Malaria Committee (Conference on Malaria). Program on page 644.

Tuesday, Wednesday, Thursday, November 11-13. American Child Hygiene Association, formerly the American Association for the Study and Prevention of Infant Mortality. Program on page 651.

Tuesday, November 11, 5:30 p. m. The Sixth Annual Meeting of the Women Physicians of the Southern Medical Association will be held at the Manor. The meeting will be followed by the annual banquet, which will be served at 7:00 p. m. Those who wish reservations for the banquet will please notify the Secretary, Dr. L. Rosa H. Gantt, Spartanburg, S. C.

Tuesday, November 11, 6:00 to 8:00 p. m. Alumni reunions (announcement of the meeting places for the alumni of the various colleges will be made at the general session Tuesday morning and in the Sections).

PUBLIC SESSION

Under Direction Section on Public Health

Auditorium, First Presbyterian Church

Monday, November 10, 8:00 p. m.

Address: "Public Health and Folks," Dr. Cyrus Thompson, Jacksonville, N. C.

Address: "Vocational Education for the Disabled in War and Industry," Prof. T. B. Kidner, National Tuberculosis Association, New York, N. Y.

Address: "The Present Status of Ornamented Evening Dress Medicine," Dr. Frank A. Jones, Memphis, Tenn.

Address: "Rural Sanitation," Dr. L. L. Lumsden, U. S. Public Health Service, Washington, D. C.

PUBLIC SESSION

Auditorium, First Presbyterian Church

Tuesday, November 11, 9:30 a. m.

Called to order by Chairman of Committee on Arrangements, Dr. H. H. Briggs.

Invocation: Rev. W. F. Powell.

Address of Welcome in behalf of Asheville and the Buncombe County Medical Society, Dr. Charles L. Minor.

Response to the Address of Welcome in behalf of the Southern Medical Association, Dr. E. H. Cary, Dallas, Tex.

President's Address: "The Wider Influence of the Physician," Dr. Lewellys F. Barker, Baltimore, Md.

Oration on Medicine: "Medicine's Daily Debt to Roentgenology," Dr. James S. McLester, Birmingham, Ala.

Oration on Surgery: "Lessons of the War," Dr. J. M. T. Finney, Baltimore, Md.

Oration on Public Health: "Some Problems in the Control of the Acute Infectious Diseases," Colonel Frederick F. Russell, Army Medical School, Washington, D. C.

Report of Committee on Arrangements.

PUBLIC SESSION

City Auditorium, Haywood Street

Tuesday, November 11, 8:00 p. m.

Address: "Work of Medical Department During War," Major-General Merritt W. Ireland, Surgeon-General, U. S. Army, Washington, D. C.

Address: "Military Medicine as a Profession," Rear-Admiral Wm. C. Braisted, Surgeon-General, U. S. Navy, Washington, D. C.

Address: Rear-Admiral Cary T. Grayson, U. S. Navy, Washington, D. C.

Address: Dr. C. H. Lavinder, Senior Surgeon, U. S. Public Health Service, Washington, D. C.

Address: Dr. W. C. Schroeder, Passed Assistant Surgeon, U. S. Public Health Service, Washington, D. C.

Address: Miss Julia C. Lathrop, Chief of the Children's Bureau, Washington, D. C. (American Child Hygiene Association).

PUBLIC SESSION

City Auditorium, Haywood Street

Wednesday, November 12, 8:00 p. m.

Address: "Surgical Researches During the World War," Dr. George W. Crile, Cleveland, Ohio.

Address: "Application of Army Methods to the Organization of Civilian Hospitals," Dr. Stuart McGuire, Richmond, Va.

Address: "Medical Organization," Dr. Franklin H. Martin, Chicago, Ill.

Address: "Medical Organization and Public Health," Dr. Alexander Lambert, New York, N. Y.

Address: "Fractures of the Femur," Sir Anthony Bowlby, England.

Address: "Stiff and Flail Joints," Sir Robert Jones, England.

GENERAL SESSION

Auditorium, First Presbyterian Church

Thursday, November 13, 11:30 a. m.

Report of Secretary-Treasurer

Report of Council

New Business

Unfinished Business

Report of Nominating Committee

Election of Officers

GENERAL HEADQUARTERS

Registration, Information, Mail, Etc.

The General Headquarters (Registration, Information, etc.) will be located in the main auditorium of the Young Men's Christian Association, 27 Haywood Street, where badges, programs and invitations to social functions will be issued. Matters concerning dues, changes of address, errors, etc., will be given attention here.

The Information Bureau and Convention Postoffice are in connection with the Registration Bureau. Competent persons are in charge to give any information or serve the doctors in any way possible. Ask anything you want to know. Mail and telegrams sent care the Association will be given best attention.

Please be sure to register before attending the meetings.

Members of the Association are requested to bring their membership-receipt (blue) card and present when registering. This will greatly facilitate the registering.

EXCERPTS FROM THE BY-LAWS

Sec. 3. Except by special vote, the order of exercises, papers and discussions as set forth in the official program shall be followed from day to day until it has been completed, and all papers omitted will be recalled in regular order.

Sec. 4. No address or paper before the Association, except the addresses of the President and Orator, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes nor more than one time on any subject, provided each essayist be allowed ten minutes in which to close the discussion.

Sec. 5. All papers read before the Association shall be the property of the Association for publication in the official journal. Each paper shall be deposited with the Secretary when read, or within ten days thereafter, and if this is not done it shall not be published.

No papers shall be published except upon recommendation of the Publication Committee, which shall consist of the Secretary-Treasurer as Chairman, with the Chairman and Secretary of each section as its constant members.

SOUTHERN STATES ASSOCIATION OF RAILWAY SURGEONS

Auxiliary of Southern Medical Association

Auditorium, First Presbyterian Church

Officers

President—I. W. Cooper, Meridian, Miss.
Vice-President—W. A. Chapman, Cedartown, Ga.
Secretary—Ambrose McCoy, Jackson, Tenn.
Stenographer—

Monday, November 10, 9:30 a. m.

President's Address: "A Plea to the Chief Surgeon," I. W. Cooper, Meridian, Miss.

"Treatment of Empyema," Duncan Eve, Sr., Nashville, Tenn.

Discussion opened by E. T. Newell, Chattanooga, Tenn.; L. E. Burch, Nashville, Tenn.

"Pruritus Ani," E. H. Terrell, Richmond, Va.

Discussion opened by John Halton, Sarasota, Fla.; John L. Jelks, Memphis, Tenn.

"Report of a Case of Saddle-Nose, Corrected by Bone Graft Implantation" (Lantern Slides), H. H. Briggs, Asheville, N. C.

"Treatment of the Fracture of the Clavicle," Edward T. Newell, Chattanooga, Tenn.

"Demonstration of the Barrel-Stave Splint in Fracture of the Clavicle," H. A. Royster, Raleigh, N. C.

"Report of a Case of Hernia in Petit's Triangle," Thomas H. Hancock, Atlanta, Ga.

"Removal of Parotid Gland for Malignant Growths; Report of Cases with Technic," M. J. Payne, Staunton, Va.

Discussion opened by H. B. Spencer, Lynchburg, Va.; John F. Armentrout, Roanoke, Va.

Monday, November 10, 2:00 p. m.

Address by Mr. W. T. Tyler, Director, Division of Operation, United States Railroad Administration, Washington, D. C.

"Injuries of the Spleen, with Report of Four Cases," E. B. Claybrook, Cumberland, Md.

Discussion opened by D. Z. Dunott, Baltimore, Md.; Lucian Landry, New Orleans, La.

"Limb Amputation Reduced to a Minimum," W. R. McKinley, Columbus, Miss.

"Tarsal and Metatarsal Injuries" (Illustrated by X-Ray Pictures), R. C. Falconer, Lexington, Kentucky.

"The Treatment of Wound Infection," Geo. W. Cox, Orange, Tex.

"Report on a Fracture of Both Bones of the Forearm as Result of Cranking Automobile," Joel Cheatham, Yale, Va.

Discussion opened by R. H. Cobb, Franklin, Va.; H. G. Strickland, Waverly, Va.

Election of Officers.

Monday, November 10, 3:00 p. m.

Conference of Chief Surgeons of railroads operating in the South to confer on railway surgery and sanitation. Dr. Southgate Leigh, Chief Surgeon, Virginian Railroad, will act as Chairman of the Conference, and Dr. D. Z. Dunott, Chief Surgeon, Western Maryland Railroad and Chairman of Committee on Health and Medical Relief of the United States Railroad Administration, will act as Secretary at the request of Dr. I. W. Cooper, President, Southern States Association of Railway Surgeons.

SECTION ON UROLOGY

Organization Meeting

Sunday School Room, First Presbyterian Church

The organization of this Section was authorized by the Chairman of the Council pending final action by the Council at the Asheville meeting. Officers were appointed by the Chairman of the Council.

Officers of Section

Chairman—Hugh H. Young, Baltimore, Md.
Vice-Chairman—Joseph Blanc, New Orleans, La.
Secretary—E. P. Merritt, Atlanta, Ga.
Stenographer—

Monday, November 10, 2:00 p. m.

"Further Observations on the Technique of Removing Ureteral Calculi Without Operation," A. J. Crowell and Raymond Thompson, Charlotte, N. C.

Discussion opened by J. T. Geraghty, Baltimore, Md.; A. G. Brenizer, Charlotte, N. C.

"The Management of Bladder Tumors," E. G. Ballenger, Atlanta, Ga.

Discussion opened by Walter B. Emery, Atlanta, Ga.; George R. Livermore, Memphis, Tenn.

"The Cautery in Acute Epididymitis," J. C. Vinson, Tampa, Fla.

Discussion opened by Edgar G. Ballenger, Atlanta, Ga.; E. P. Merritt, Atlanta, Ga.

"The Choice of Methods in the Operative Treatment of Hypertrophy of the Prostate" (Lantern Slides), O. LeGrand Suggett, St. Louis, Mo.

Discussion opened by A. J. Crowell, Charlotte, N. C.; E. G. Ballenger, Atlanta, Ga.

"The Value of Systematic Examination of the Urogenital Tract," Gideon Timberlake, Baltimore, Md.

Discussion opened by Ferdinand M. Walsh, San Antonio, Tex.; Montague L. Boyd, Atlanta, Ga.

"Diagnosis and Treatment of Syphilis," G. Victor Williams, Chattanooga, Tenn.

SECTION ON PEDIATRICS

Primary Room, Central Methodist Church

Officers of Section

Chairman—L. T. Royster, Norfolk, Va.

Vice-Chairman—J. D. Love, Jacksonville, Fla.

Secretary—L. W. Elias, Ashville, N. C.

Stenographer—

Monday, November 10, 9:30 a. m.

Chairman's Address: "Otitis Media," L. T. Royster, Norfolk, Va.

"Infant Feeding," I. A. Abt, Chicago, Ill.

"Pyelitis," H. F. Helmholz, Evanston, Ill.

Discussion opened by Richard M. Smith, Boston, Mass.; L. T. Royster, Norfolk, Va.

"Some Facts and Fallacies Relating to Maternal Feeding of Infants," J. D. Love, Jacksonville, Fla.

Discussion opened by W. L. Funkhouser, Atlanta, Ga.; R. M. Pollitzer, Charleston, S. C.

"A Case of Spinal Muscular Atrophy Probably of Werdnig-Hoffman Type," J. H. M. Knox, Jr., and Grover F. Powers, Baltimore, Md.

Discussion opened by B. K. Bachford, Cincinnati, Ohio; L. T. Royster, Norfolk, Va.

"What Are We Doing for the Backward Child?" Chas. E. Boynton, Atlanta, Ga.

Discussion opened by L. W. Elias, Asheville, N. C.; Philip Barbour, Louisville, Ky.

"Glycosuria of Five Years' Duration in Child. Report of Case," Mary C. Harper, San Antonio, Tex.

Monday, November 10, 2:00 p. m.

"Chronic Appendicitis in Children. Report of Cases," McGuire Newton, Richmond, Va.

"Acute Infectious Diseases of Childhood," R. M. Pollitzer, Charleston, S. C.

Discussion opened by L. W. Elias, Asheville, N. C.; W. A. Mulherin, Augusta, Ga.

"Typhoid in Children," G. J. Greil, Montgomery, Ala.

"Active Immunization Against Diphtheria," J. B. Sidbury, Wilmington, N. C.

Discussion opened by C. E. Low, Wilmington, N. C.; L. W. Elias, Asheville, N. C.

"Ileo-Colitis," N. C. Womack, Jackson, Miss.

Discussion opened by J. Ross Snyder, Birmingham, Ala.; J. Clyde Stingily, Memphis, Tenn.

"The Treatment of Entero-Colitis in Infancy," W. W. Harper, Selma, Ala.

Election of Officers.

NATIONAL MALARIA COMMITTEE

Conference on Malaria

Acting as the Malaria Division of the Section on Public Health

Baraca Room, First Presbyterian Church

Officers of Committee

Chairman—Rupert Blue, Surgeon-General, U. S. Public Health Service, Washington, D. C.

Secretary—H. R. Carter, Assistant Surgeon-General, U. S. Public Health Service, Baltimore, Maryland.

Stenographer—

Monday, November 10, 9:30 a. m.

"Control of Malaria by Quinine Sterilization of the Human Host," C. C. Bass, New Orleans, La.

"Malaria Control by Prevention of Mosquito Production and the Results Obtained in Southeast Arkansas," H. A. Taylor, International Health Board, and C. W. Garrison, State Health Officer of Arkansas, Little Rock, Ark.

"Control of Malaria by Control of Mosquito Production in Distinctively Rural Areas," H. H. Howard, International Health Board, Jackson, Miss.

"Summary of Results of Certain Experiments in Malaria Control," John A. Ferrell, International Health Board, New York, N. Y.

Discussion on above Symposium.

Monday, November 10, 2:00 p. m.

"The Aftermath of Malaria Control in Extra Cantonment Areas," J. A. LePrince, Sanitary Engineer, U. S. Public Health Service, Memphis, Tenn.

"The Control of Malaria for a Railroad System, Based on the Experience of the St. Louis Southwestern During 1917, 1918, 1919," H. W. Van Hovenberg, Sanitary Engineer, St. Louis Southwestern Railroad, Tyler, Tex.

"Relation of Drainage Projects to Malaria," J. I. Heritage, Drainage Engineer.

"The Malaria Problem in Rice Culture," J. A. Geiger, Epidemiologist, U. S. Public Health Service, and W. C. Purdy, Special Expert, U. S. Public Health Service.

Discussion on above Symposium.

There will be an executive session after the end of the open sessions.

All physicians and laymen specially interested in malaria are invited to attend and *take part in* this Conference.

SOUTHERN GASTRO-ENTEROLOGICAL ASSOCIATION

Auditorium, First Baptist Church

Officers

President—J. C. Johnson, Atlanta, Ga.

Vice-President—J. T. Rogers, Savannah, Ga. (deceased).

Secretary—Marvin H. Smith, Jacksonville, Fla.

Stenographer —

Monday, November 10, 9:30 a. m.

President's Address: "Doubts, Differences and Difficulties in Diagnosis of Gastro-Intestinal Diseases," J. C. Johnson, Atlanta, Ga.

"Observations in Transduodenal Lavage and the Usefulness of the Jutte Tube," A. L. Levin, New Orleans, La.

Discussion opened by Seale Harris, Birmingham, Ala.; I. I. Lemann, New Orleans, La.

"An Improved Stomach Tube," Geo. Mizell, Atlanta, Ga.

Discussion opened by Seale Harris, Birmingham, Ala.; J. B. Fitts, Atlanta, Ga.

"A Discussion of the Diseases of the Pancreas, with Report of Cases," J. E. Knighton, Shreveport, La.

Discussion opened by S. K. Simon, New Orleans, La; J. B. Fitts, Atlanta, Ga.

"Infectious Mateorism," Max Einhorn, New York, N. Y.

Discussion opened by R. von Ruck, Asheville, N. C.; Seale Harris, Birmingham, Ala.

"The Present Limitations of the Roentgen Ray in the Diagnosis of Gastro Intestinal Diseases," Geo. M. Niles, Atlanta, Ga.

Discussion opened by Marvin H. Smith, Jacksonville, Fla.; W. O. Nisbet, Charlotte, N. C.

Monday, November 10, 2:00 p. m.

"Ballantidium Coli Infection: Report of a Case," W. O. Nisbet, Charlotte, N. C.

Discussion opened by H. P. Barrett, Charlotte, N. C.; George M. Niles, Atlanta, Ga.

"The Occurrence of Gall-Stones in Young Individuals," Julius Friedenwald and Alfred Ullman, Baltimore, Md.

Discussion opened by Sidney K. Simon, New Orleans, La.; J. C. Johnson, Atlanta, Ga.

"The Effect and Maintenance of Intra-Abdominal Pressure," J. B. Fitts, Atlanta, Ga.

Discussion opened by Sidney K. Simon, New Orleans, La.; George M. Niles, Atlanta, Ga.

"Amebæ, Cercomonas-Intestinalis-Hominis and Pellagrous Infections in the South. The Responsibility Resting on Nation and State, Suggestions as to Means of Control," John L. Jelks, Memphis, Tenn.

Discussion opened by Seale Harris, Birmingham, Ala.; Sidney K. Simon, New Orleans, La.

"Educating the Patient in the Treatment of Gastro-Intestinal Diseases," Seale Harris, Birmingham, Ala.

Discussion opened by William Gorgas Morgan, Washington, D. C.; J. C. Johnson, Atlanta, Georgia.

CONFERENCE ON MEDICAL EDUCATION

Class Room, [illegible] Presbyterian Church

Chairman, Stewart R. Roberts, Atlanta, Ga.

Monday, November 10, 10:00 a. m.

Chairman's Address: "Relation of Medical Education to Group Medicine," Stewart R. Roberts, Atlanta, Ga.

"Medical Education by a Fourth-Year Student," Dan Collier Elkin, Atlanta, Ga.

"Medical Education by a Fifth-Year Graduate," [illegible] Atlanta, Ga.

"The Medical Teacher," Kenneth M. Lynch, Charleston, S. C.

Discussion opened by W. S. Carter, Galveston, Tex.; W. D. Gaither, Augusta, Ga.

"Medical Education and the Practitioner," W. W. Herrick, Columbia University, New York, N. Y.

Discussion opened by J. M. Hutcheson, Richmond, Va.; Robert Wilson, Jr., Charleston, S. C.

"Medical Education by a General Surgeon and Dean," Stuart McGuire, Richmond, Va.

"Medical Education: A Summary," George Dock, Washington University, St. Louis, Mo.

"The Organization and Aims of the National Board of Medical Examiners," Col. Louis A. LaGarde, Treasurer, Washington, D. C., and J. S. Rodman, Secretary, Philadelphia, Pa., National Board of Medical Examiners.

Election of Officers.

SECTION ON MEDICINE

Auditorium, First Baptist Church

Officers of Section

Chairman—Randolph Lyons, New Orleans, La.
Vice-Chairman—J. E. Paullin, Atlanta, Ga.
Secretary—B. W. Fontaine, Memphis, Tenn.
Stenographer—William Whitford, Chicago, Ill.

Tuesday, November 11, 2:00 p. m.

Chairman's Address: "The Status of Amebic Dysentery," Randolph Lyons, New Orleans, La.

"Subacute Combined Degeneration of the Spinal Cord," William G. Somerville, Memphis, Tenn.

Discussion opened by E. Bates Block, Atlanta, Ga.; Roy M. Van Wart, New Orleans, La.

"The Reliability of a Few Simple Tests of Renal Function as Compared with the More Elaborate Ones," C. W. Dowden, Louisville, Ky.

Discussion opened by I. I. Lemann, New Orleans, La.; Thomas R. Brown, Baltimore, Md.

"Syphilis of the Heart and Aorta," I. I. Lemann and A. Mattes, New Orleans, La.

Discussion opened by Albert Keidel, Baltimore, Md.; J. B. McElroy, Memphis, Tenn.

"Coccidioidal Granuloma," K. M. Lynch, Charleston, S. C.

Discussion opened by W. L. Dunn, Asheville, N. C.; M. L. Graves, Galveston, Tex.

"Some Conditions that Simulate Pulmonary Tuberculosis," W. H. Witt, Nashville, Tenn.

Discussion opened by J. H. Pratt, Boston, Mass.; Stewart R. Roberts, Atlanta, Ga.

Wednesday, November 12, 9:30 a. m.

"Blood Transfusion as a Practical Therapeutic Agent," Cabot Lull, Birmingham, Ala.

Discussion opened by S. R. Miller, Baltimore, Md.; Groesbeck Walsh, Birmingham, Ala.

"The Role of Digitalis in Cardiac Diseases," Frank A. Jones, Memphis, Tenn.

Discussion opened by P. S. Roy, Washington, D. C.; W. S. Thayer, Baltimore, Md.

"The Value of Large Single Doses of Digitalis in the Treatment of Heart Disease," G. Canby Robinson, St. Louis, Mo.

Discussion opened by J. S. McLester, Birmingham, Ala.

"Rest and Exercise in the Treatment of Heart Disease," J. H. Pratt, Boston, Mass.

Discussion opened by L. F. Barker, Baltimore, Md.; John T. Halsey, New Orleans, La.

"Cardiospasm: Report of 100 Cases," J. Russell Verbrycke, Jr., Washington, D. C.

Discussion opened by R. W. Mills, St. Louis, Mo.; Douglas VanderHoof, Richmond, Va.

"Some Observations on the 'Sippy Cure' in the Treatment of Peptic Ulcer," Julius Friedenwald and Theodore Morrison, Baltimore, Md.

Discussion opened by Stewart R. Roberts, Atlanta, Ga.; Seale Harris, Birmingham, Ala.

"Serum Therapy in Lobar Pneumonia. Report of Sixty Cases," Graham E. Henson, Jacksonville, Fla.

Discussion opened by J. B. Guthrie, New Orleans, La.; J. E. Paullin, Atlanta, Ga.

Wednesday, November 12, 2:00 p. m.

"Protozoal Infections of the Intestinal Tract: Methods of Diagnosis and Treatment," S. K. Simon, New Orleans, La.

Discussion opened by William Litterer, Nashville, Tenn.; Marvin H. Smith, Jacksonville, Fla.

"The Significance of a Small Amount of Sugar in the Urine," Louis Hamman, Baltimore, Md.

Discussion opened by J. Heyward Gibbes, Columbia, S. C.

"The Cause of the Delayed Kidney Injury in Acute Bichloride Intoxications" (Lantern Slides), Wm. deB. McNider, Chapel Hill, N. C.

Discussion opened by J. K. Hall, Richmond, Va.; Lewis M. Gaines, Atlanta, Ga.

"The Signs and Symptoms of Hypopituitarism," Stewart R. Roberts, Atlanta, Ga.

Discussion opened by W. H. Witt, Nashville, Tenn.; J. E. Paullin, Atlanta, Ga.

"Gastrointestinal Symptoms in Diseases Outside Those of the Digestive Tract," Thomas R. Brown, Baltimore, Md.

Discussion opened by Charles L. Minor, Asheville, N. C.; A. W. Calloway, Asheville, N. C.

"Pulmonary Syphilis," J. Heyward Gibbes, Columbia, S. C.

Discussion opened by J. A. Witherspoon, Nashville, Tenn.; J. S. McLester, Birmingham, Ala.

"Lantern Slide Demonstration of Interesting Gastrointestinal Conditions," R. W. Mills, St. Louis, Mo.

Discussion opened by J. Friedenwald, Baltimore, Md.; Thomas R. Brown, Baltimore, Md.

Thursday, November 13, 9:30 a. m.

"The Etiology of Epilepsy," E. Bates Block, Atlanta, Ga.

Discussion opened by J. P. Munroe, Charlotte, N. C.

"Acute Ascites," J. B. Guthrie, New Orleans, La.

Discussion opened by Frank A. Jones, Memphis, Tenn.

"Responsibility of Physicians Who Treat Malaria Cases," C. C. Bass, New Orleans, La.

Discussion opened by W. H. Deaderick, Hot Springs, Ark.; W. S. Leathers, University, Miss.

"Gastric Neuroses," Alexander G. Brown, Jr., Richmond, Va.

Discussion opened by H. S. Ward, Birmingham, Ala.; Seale Harris, Birmingham, Ala.

"Comparative Study of Gastric Motility as Determined by the Ordinary Test Meal and Six-hour Barium Retention," Harvey G. Beck and John Evans, Baltimore, Md.

Discussion opened by S. K. Simon, New Orleans, La.; A. L. Gray, Richmond, Va.

"Some Unsolved Problems in Pernicious Anemia," S. R. Miller, Baltimore, Md.

Discussion opened by Allan Eustis, New Orleans, La.; L. F. Barker, Baltimore, Md.

"The Management of Visceroptosis," F. H. Wilkerson, Montgomery, Ala.

Discussion opened by G. M. Niles, Atlanta, Ga.; J. S. McLester, Birmingham, Ala.

Thursday, November 13, 2:00 p. m.

"Concerning Focal Infections," Thomas D. Coleman, Augusta, Ga.

Discussion opened by D. VanderHoof, Richmond, Virginia.

"An Analysis of One Hundred Cases of Neurosyphilis," G. M. Eckel, Hot Springs, Ark.

Discussion opened by R. C. Bunting, Memphis, Tenn.; J. S. McLester, Birmingham, Ala.

"Indicanuria (Toxic States), Symptoms, Diagnosis and Treatment," W. A. Dearman, Long Beach, Miss.

Discussion opened by C. W. Dowden, Louisville, Ky.; Allan Eustis, New Orleans, La.

"The Incidence, Associated Pathology and the Clinical Diagnosis of Adherent Pericarditis," J. Curtis Lyter, St. Louis, Mo.

Discussion opened by Robert Wilson, Jr., Charleston, S. C.; H. W. Bass, Gadsden, Ala.

"Promiscuous Drugging," Walter Vest, Huntington, W. Va.

Discussion opened by Oscar Dowling, New Orleans, La.

Election of Officers.

SECTION ON SURGERY

Auditorium, First Presbyterian Church

Officers of Section

Chairman—Jere L. Crook, Jackson, Tenn.
Vice-Chairman—L. H. Landry, New Orleans, La.
Secretary—John R. Caulk, St. Louis, Mo.
Stenographer—

Tuesday, November 11, 2:00 p. m.

Chairman's Address: "The Medical Profession in the War; Its Sacrifices and Compensations; Humanity's Gains," Jere L. Crook, Jackson, Tenn.

"Congenital Defects of the Lower Genito-Urinary Tract; Surgical Treatment," C. M. Rosser, Dallas, Tex.

"Non-hypertrophic Forms of Prostatic Obstruction," Bransford Lewis and Neil S. Moore, St. Louis, Mo.

Discussion opened by C. W. Shropshire, Birmingham, Ala.; E. G. Ballenger, Atlanta, Ga.

"Ureteral Stones: Symptoms, Diagnosis and Treatment," E. P. Merritt, Atlanta, Ga.

Discussion opened by A. J. Crowell, Charlotte, N. C.; Bransford Lewis, St. Louis, Mo.

"Diverticulum of the Posterior Urethra, with Case Report," G. T. Tyler, Greenville, S. C.

Discussion opened by R. C. Bryan, Richmond, Va.; E. G. Ballenger, Atlanta, Ga.

"Surgery of the Prostate," J. Hugh Carter, Memphis, Tenn.

Discussion opened by C. Jeff Miller, New Orleans, La.; E. G. Ballenger, Atlanta, Ga.

"The Value of Radium in the Treatment of Bladder Tumors," J. T. Geraghty, Baltimore, Md.

"Ununited Fracture of the Neck of the Femur" (Lantern Slides), Willis C. Campbell, Memphis, Tenn.

Discussion opened by E. H. Hatch, New Orleans, La.; E. Lawrence Scott, Birmingham, Ala.

Wednesday, November 12, 9:30 a. m.

"Fractures of the Lower End of the Humerus," Charles A. Vance, Lexington, Ky.

Discussion opened by W. B. Owen, Louisville, Ky.

"Reconstruction Surgery with Special Reference to Loss of Bone" (Lantern Slides), J. Spencer Davis, Dallas, Tex.

"Treatment of the Acute Suppurative Abdomen," J. P. Runyan, Little Rock, Ark.

Discussion opened by H. M. Doolittle, Dallas, Tex.; F. D. Smythe, Memphis, Tenn.

"Chronic Pancreatitis: Its Differential Diagnosis and Treatment," Joseph C. Bloodgood, Baltimore, Md.

"Inguinal Hernia of the Uterus," H. A. Royster, Raleigh, N. C.

"Ovarian Function Following Hysterectomy," E. H. Richardson, Baltimore, Md.

Discussion opened by F. Webb Griffith, Asheville, N. C.; W. F. Shallenberger, Atlanta, Ga.

Wednesday, November 12, 2:00 p. m.

"Goiter: Observations Drawn from 131 Operated and 71 Unoperated Cases" (Lantern Slides), Addison G. Brenizer, Charlotte, N. C.

Discussion opened by Stuart McGuire, Richmond, Va.; James F. Mitchell, Washington, D. C.

"Toxic Goiter," W. D. Haggard, Nashville, Tenn.

Discussion opened by E. G. Jones, Atlanta, Ga.; John R. Wathen, Louisville, Ky.

"The Technique of Operation Upon Peripheral Nerves" (Lantern Slides), C. C. Coleman, Richmond, Va.

Discussion opened by J. E. King, Staten Island, N. Y.; Beverly R. Tucker, Richmond, Va.; A. M. Willis, Richmond, Va.

"A Few of the Problems in Neurological Surgery," Ernest Sachs, St. Louis, Mo.

Discussion opened by J. Shelton Horsley, Richmond, Va.; Chas. E. Dowman, Atlanta, Ga.

"Pre-Cancerous Conditions of the Breast with Special Reference to Chronic Cystic (Interstitial) Mastitis," J. S. Rodman, Philadelphia, Pa.

Discussion opened by J. Shelton Horsley, Richmond, Va.; Irvin Abell, Louisville, Ky.

"Benign Tumors of the Breast," J. Shelton Horsley, Richmond, Va.

Discussion opened by Joseph C. Bloodgood, Baltimore, Md.; James Thompson, Galveston, Tex.

Thursday, November 13, 9:30 a. m.

"Cranioplasty: Indications, Operation and Results" (Lantern Slides), Joseph E. King, Army General Hospital No. 41, Fox Hills, Staten Island, N. Y.

Discussion opened by C. C. Coleman, Richmond, Va.; H. H. Kerr, Washington, D. C.

"The Complete Forceps Operation" Edward P. Davis, Philadelphia, Pa.

"Therapy in Obstetrics," James R. Garber, Birmingham, Ala.

Discussion opened by Edward P. Davis, Philadelphia, Pa.

"Use of Radium in Gynecology," William C. Gewin, Birmingham, Ala.

Discussion opened by C. Jeff Miller, New Orleans, La.; C. F. Burnham, Baltimore, Md.

"Aneurisms," Edwin B. Anderson, Chattanooga, Tenn.

Discussion opened by Jere L. Crook, Jackson, Tenn.; J. Shelton Horsley, Richmond, Va.

"Empyema: Recent Experiences," F. K. Boland, Atlanta, Ga.

Discussion opened by W. S. Nash, Knoxville, Tenn.; F. W. Griffith, Asheville, N. C.

Thursday, November 13, 2:00 p. m.

"Operative Treatment of Advanced Carcinoma of the Tongue," Vilray P. Blair, St. Louis, Mo.

"Plastic Surgery of the Face" (Lantern Slides), E. D. Highsmith, Atlanta, Ga.

Discussion opened by W. S. Goldsmith, Atlanta, Ga.; Michael Hoke, Atlanta, Ga.

"Some New Uses of the Scrotum," Joseph E. Johnson, Memphis, Tenn.

Discussion opened by Hugh Brent, Baltimore, Md.; H. A. Peyton, Jacksonville, Fla.

"Malignant Moles," H. H. Hazen, Washington, D. C.

Discussion opened by J. C. Bloodgood, Baltimore, Md.; Marcus Haase, Memphis, Tenn.

Election of Officers.

SECTION ON OPHTHALMOLOGY, RHINOLOGY, OTOLOGY AND LARYNGOLOGY

Sunday School Room, First Presbyterian Church

Officers of Section

Chairman—E. H. Cary, Dallas, Tex.
Vice-Chairman—J. A. Stucky, Lexington, Ky.
Secretary—W. T. Patton, New Orleans, La.
Stenographer—

Tuesday, November 11, 2:00 p. m.

Chairman's Address: "Scientific Team Work in Diagnosis and Treatment of Diseases of the Eye, Ear, Nose and Throat" (From the Standpoint of Ophthalmology), E. H. Cary, Dallas, Tex.

"Scientific Team Work in Diagnosis and Treatment of Diseases of Eye, Ear, Nose and Throat" (From the Standpoint of Rhinology and Oto-laryngology), J. A. Stucky, Lexington, Ky.

Discussion opened by E. C. Ellett, Memphis, Tenn.; R. C. Lynch, New Orleans, La.

"End Results of Trachoma in the Mountains of East Tennessee and Kentucky," John McMullen, U. S. Public Health Service, Washington, D. C.

"Atypical Mastoiditis," S. MacCuen Smith, Philadelphia, Pa.

Discussion opened by J. A. Stucky, Lexington, Ky.

"Radical Mastoid Operation and Indications" (Lantern Slides), E. G. Gill, Roanoke, Va.

Discussion opened by H. M. Taylor, Jacksonville, Fla.; Richmond McKinney, Memphis, Tenn.

"Displacements of the Eye in Association with Chronic Frontal Sinusitis with a History of Five Cases," R. C. Lynch, New Orleans, La.

Discussion opened by T. W. Moore, Huntington, W. Va.; Dunbar Roy, Atlanta, Ga.

Wednesday, November 12, 9:30 a. m.

"An Orbito-Palatal Route of Transillumination of the Maxillary Sinus," H. H. Briggs, Asheville, N. C.

Discussion opened by R. C. Lynch, New Orleans, La.; Edward Parker, Charleston, S. C.

"Can the Ethmoid Cells Be Entered Through the Maxillary Sinus?" Homer DuPuy, New Orleans, La.

Discussion opened by J. W. Jervey, Greenville, S. C.; M. P. Boebinger, New Orleans, La.

"Report of Two Cases of Eye Inflammation, Result of Infection of the Teeth." C. M. Miller, Richmond, Va.

Case Reports: Enucleation with Local Anesthesia; Gasserian Ganglion Injections; Spasmodic Tic; A Second Ocular Syndrome of Dental Origin with Contracted Field," H. H. Martin, Savannah, Ga.

Discussion opened by Hilliard Wood, Nashville, Tenn.; Samuel Kirkpatrick, Selma, Ala.

"Forty Cases of Foreign Bodies in the Lungs, Esophagus and Intestines," E. W. Carpenter, Greenville, S. C.

Discussion opened by R. C. Lynch, New Orleans La.; C. M. Miller, Richmond, Va.

"A Beginner's Experience in Bronchoscopy," T. W. Moore, Huntington, W. Va.

Discussion opened by R. C. Lynch, New Orleans, La.; W. T. Patton, New Orleans, La.

Wednesday, November 12, 2:00 p. m.

General vs. Local Rectal Tonsil Removal," Frank D. Boyd, Fort Worth, Tex.

Discussion opened by J. W. Jervey, Greenville, S. C.; T. W. Moore, Huntington, W. Va.

"Relation of the Fifth Cranial Nerve to Auditory Vestibular Disease," E. R. Carpenter, El Paso, Tex.

"X-Ray And in the Diagnosis of Nasal Accessory Sinus Disease" (Lantern Slides), J. W. Jervey, Greenville, S. C.

Discussion opened by H. H. Briggs, Asheville N. C.; W. B. Mason, Washington, D. C.

"Treatment of Sympathetic Ophthalmia," H. M. Moulton, Ft. Smith, Ark.

Discussion opened by F. D. Boyd, Fort Worth, Tex.; L. H. Buxton, Oklahoma City, Okla.

"Two Cases of Epithelioma of the Eye Ball; Operation and No Return After Six Years," Dunbar Roy, Atlanta, Ga.

Discussion opened by J. W. Jervey, Greenville, S. C.

Thursday, November 13, 9:30 a. m.

"A Few Cases from the Records," Thomas McDavitt, St. Paul, Minn.

Discussion opened by J. W. Jervey, Greenville, S. C.

(1) Simplified Technique for Local Anesthesia of Tonsil; (2) Intra-Nasal Surgery Without Packing," W. T. Patton, New Orleans, La.

Discussion opened by Frank D. Boyd, Fort Worth, Tex.; T. W. Moore, Huntington, W. Va.

"Vincent's Disease," John J. Shea, Memphis Tenn.

Discussion opened by A. C. Lewis, Memphis, Tenn.; Harvey B. Searcy, Tuscaloosa, Ala.

"Some Considerations in Interpreting Muscular Imbalance," Hiram Woods, Baltimore, Md.

Discussion opened by G. C. Savage, Nashville, Tenn.; E. C. Ellett, Memphis, Tenn.

"The Maxillary Sinus," John T. Crebbin, New Orleans, La.

Discussion opened by Joseph B. Greene, Asheville, N. C.

Election of Officers.

SECTION ON PUBLIC HEALTH

Conference of Public Health Officials of the Southern States

Baraca Room, First Presbyterian Church

Officers of Section

Chairman—L. B. McBrayer, Sanatorium, N. C.
Vice-Chairm'n—Henry Boswell, Sanatorium, Miss.
Secretary—W. L. Heizer, Frankfort, Ky.
Stenographer—

Tuesday, November 11, 2:00 p. m.

Chairman's Address: L. B. McBrayer, Sanatorium, N. C.

Vice-Chairman's Address: Henry Boswell, Sanatorium, Miss.

"The Whole-Time County Health Department," Wm. S. Keister, State Director of Sanitation, Montgomery, Ala.

"County Health Work in North Carolina," B. E. Washburn, Director, Bureau of County Health Work, Raleigh, N. C.

Discussion opened by P. W. Covington, Austin, Tex.; S. W. Welch, Montgomery, Ala.

"A State Law Regulating the Construction and Maintenance of Privies," Mr. H. E. Miller, Director, Bureau of Engineering and Inspection, Raleigh, N. C.

"The Control of Communicable Diseases from a Whole-Time Health Officer's Standpoint," John Thames, City Health Officer, Little Rock, Ark.

Discussion opened by Geo. M. Cooper, Raleigh, N. C.; C. W. Garrison, Little Rock, Ark.

Wednesday, November 12, 9:30 a. m.

"The State Health Department and the Child Welfare Problem of the South," E. A. Hines, Seneca, S. C.

Discussion opened by James A. Hayne, Columbia, S. C.; W. S. Rankin, Raleigh, N. C.

"The Fundamental Knowledge Necessary for Health Officers," A. T. McCormack, Secretary, Kentucky State Board of Health, Louisville, Ky.

Discussion opened by W. S. Leathers, University, Miss.; S. W. Welch, Montgomery, Ala.

"A Sanitary Social Service Based on Experience with the Bureau of Venereal Diseases," Milton Board, Director, Bureau of Venereal Diseases, Louisville, Ky.

"Experience of Kentucky Physicians with the Rosenow Influenza Vaccine," Lillian H. South, Director, Bureau of Bacteriology, and B. F. Sturdevant, Louisville, Ky.

Discussion opened by Wm. Litterer, Nashville, Tenn.; W. S. Leathers, University, Miss.

"Hookworm and Manifest Tuberculosis," Roy D. Adams, Washington, D. C.

Tuberculous Infection and Tuberculosis," B. L. Taliaferro, Catawba Sanatorium, Va.

Discussion opened by E. G. Williams, Richmond, Virginia.

Wednesday, November 12, 2:00 p. m.

"How to Eradicate and Prevent Narcotic Drug Addiction," R. G. Buckner, Asheville, N. C.

"Relation of the Physician to the Health Department," Chas. E. Low, Superintendent of Health, Wilmington, N. C.

"A Community Hospital in Rural Sections for the Improvement of Public Health," George H. Packard, White Rock, N. C.

"Rural Sanitation in Mississippi," Paul G. Pope, Columbia, Miss.

"Venereal Disease Control," Jos. P. Bowdoin, Atlanta, Ga.

"What Has the Health Officer Done for the Institutional Child, and What Can He Do?" Maud Loeber, New Orleans, La.

Thursday, November 13, 9:30 a. m.

"The Woman Physician and Social Education," Jeannette F. Throckmorton, Des Moines, Iowa.

"The Cultivation of the Bat as a Means of Stamping Out Malaria," M. M. Smith, Dallas, Tex.

"Sanitation and Health Conservation in Southern Shipyards," Col. J. L. Ludlow, Winston-Salem, N. C.

"Proper Organization for the Fight Against Tuberculosis as Formulated in Winston-Salem and Forsyth County," R. L. Carlton, City Health Officer, and A. C. Bulla, County Health Officer, Forsyth County, Winston-Salem, N. C.

"Report of the Committee on Laboratory Activities," Wm. A. Krauss and C. R. Stingily, Memphis, Tenn.

Election of Officers.

Thursday, November 13, 2:00 p. m.

Joint Session with the Section on Rural Problems of the American Child Hygiene Association.

"Rural Dental and Surgical Clinics," George M Cooper, Director, Bureau of Medical Inspection of Schools, North Carolina State Board of Health, Raleigh, N. C.

Discussion opened by Taliaferro Clark, U. S. Public Health Service, Washington, D. C.; Julius C. Levy, State Board of Health, Newark, N. J.

"Opportunities of the Rural Public Health Nurse for Developing Child Hygiene," Mrs. Dodd, South Carolina State Board of Health, Columbia, S. C.

Discussion opened by Mrs. Kate Brew Vaughn, North Carolina State Board of Health, Raleigh, N. C.; A. T. McCormack, Secretary, State Board of Health, Louisville, Ky.

"The Minnesota Rural Clinic," E. J. Huenekens, Minneapolis, Minn.

Discussion opened by Richard Smith, Boston, Mass.; Anna Rude, Children's Bureau, Washington, D. C.; J. P. Sedgwick, Minneapolis, Minn.; N. O. Pearce, Minneapolis, Minn.

AMERICAN CHILD HYGIENE ASSOCIATION

Primary Room, Central Methodist Church

Officers

President—S. Josephine Baker, New York, N. Y.
President-Elect (1920)—Philip Van Ingen, New York, N. Y.
Vice-Presidents—W. P. Lucas, San Francisco, Cal.; W. S. Rankin, Raleigh, N. C.
Secretary—Henry F. Helmholz, Evanston, Ill.
Treasurer—Mr. Austin McLanahan, Baltimore, Maryland.
Executive Secretary—Miss Gertrude B. Knipp, Baltimore, Md.

Tuesday, November 11, 9:30 a. m.

President's Address: S. Josephine Baker, Director, Bureau of Child Hygiene, Department of Health, New York, N. Y.

Tuesday, November 11, 10:30 a. m.

PRENATAL AND MATERNAL CARE

Committee

James Lincoln Huntington, Boston, Mass., Chairman.
Ralph W. Lobenstine, New York, N. Y.
Robert L. DeNormandie, Boston, Mass
Mary Sherwood, Baltimore, Md.

Introduction by the Chairman.

"The Maternity Problem in New York City with Special Reference to Its Social Aspects," Ralph W. Lobenstine, New York, N. Y.

Discussion opened by Miss Anne Stevens, New York, N. Y.

"Prenatal Care in Massachusetts," Robert L. DeNormandie, Boston, Mass.

Discussion opened by Merrill E. Champion, Director, Division of Hygiene, State Department of Health, Boston, Mass.

"Maternal Benefits and Its Bearing on Prenatal Care," Merrill E. Champion, Director, Division of Hygiene, State Department of Health, Boston, Mass.

Discussion opened by Fritz B. Talbot, Boston, Mass.

Tuesday, November 11, 2:30 p. m.

INFANT CARE

Committee

Alan Brown, Toronto, Canada, Chairman.
Richard A. Bolt, Oakland, Calif.
Helen MacMurchy, Toronto, Canada.
Mary Sherwood, Baltimore, Md.

"Report of Breast Feeding Bureau at Minneapolis," J. P. Sedgwick, Minneapolis, Minn.

Discussion opened by Richard M. Smith, Boston, Mass.

"How May the General Practitioner be Interested in the Modern Socio-Medical Program for Infancy?" Richard A. Bolt, Oakland, Calif.

Discussion opened by Joseph S. Wall, Washington, D. C.

"Help in the Home for the Mother with a Young Baby," Helen MacMurchy, Toronto, Canada.

Discussion opened by Mary Sherwood, Baltimore, Maryland.

Wednesday, November 12, 9:30 a. m.

GENERAL SESSION

Report of Committee on Amendment of the Constitution.

Reports of Affiliated Societies.

Wednesday, November 12, 10:30 a. m.

NURSING AND SOCIAL WORK

Committee

Miss Estelle L. Wheeler, R. N., Brookline, Mass., Chairman.
Miss Grace Anderson, Superintendent Municipal Nurses, St. Louis, Mo.
Miss Mary Arnold, Executive Secretary, Babies' Welfare Association, New York, N. Y.
Miss Pansy V. Besom, Assistant Division Director of Public Health Nursing, New England Division, Red Cross, Boston, Mass.

Miss M. Frances Etchberger, Superintendent Babies' Milk Fund Association, Baltimore, Md.
Miss W. L. Fitzpatrick, Associate Superintendent, District Nursing Association, Providence, R. I.
Miss Janet M. Geister, Children's Bureau, Washington, D. C.
Miss Emma E. Grettinger, Director, Bureau of Public Health Nursing, American Red Cross, Seattle, Wash.
Mrs. Virginia Knox Kimble, State Supervisor of Nurses, Topeka, Kans.
Miss Zoe La Forge, Children's Bureau, Chicago, Illinois.
Miss Mary A. Mackay, Superintendent Visiting Nurse Association, Denver, Colo.
Miss Sara B. Place, Superintendent Infant Welfare Society, Chicago, Ill.
Miss Mary Powers, Director Bureau of Child Welfare, Toronto, Canada.
Miss Elizabeth Shaver, Supervisor Babies' Milk Fund Association, Louisville, Ky.

"General Outline of Welfare Work for the Child from Two to Six"—(a) From the Viewpoint of the City. Miss Sara B. Place, Superintendent Infant Welfare Society, Chicago, Ill.; (b) from the Viewpoint of the Rural Community. Mrs. Virginia Knox Kimble, State Supervisor of Nurses, Topeka, Kans.

"Statement of the 1919-1920 Program of the National Organization for Public Health Nursing," Miss Zoe La Forge, Children's Bureau, Chicago, Ill.

"The Work of the University Extension Service in the Prevention of Infant Mortality," Mrs. Louis Selbert, Specialist in Home Nursing and Health, Agricultural Extension Service, University of Missouri, Columbia, Mo.

Wednesday, November 12, 2:30 p. m.

PRE-SCHOOL AGE

Fritz B. Talbot, Boston, Mass., Chairman.

"What England and Scotland Are Doing for Children of Pre-School Age," William Palmer Lucas, San Francisco, Calif., Chief of the Children's Bureau of the American Red Cross in France; Miss Ellen C. Babbitt, Washington, D. C.

"Observations on the Supervision of the Pre-School Age in the Large City," Walter H. O. Hoffmann, Chicago, Ill.

(Subject to be announced later), Adelaide Brown, San Francisco, Calif.

Thursday, November 13, 9:30 a. m.

BUSINESS SESSION

Report of Nominating Committee.

Reports of Affiliated Societies (Continued)

Thursday, November 13, 10:30 a. m.

SCHOOL AGE AND ADOLESCENCE

Committee

Taliaferro Clark, Assistant Surgeon-General, U. S. Public Health Service, Washington, D. C., Chairman.
W. S. Rankin, Secretary, State Board of Health, Raleigh, N. C.
E. A. Peterson, Board of Education, Cleveland, Ohio.
Thomas A. Storey, Interdepartmental Social Hygiene Board, Washington, D. C.
Lydia Allen Devilbiss, Chief of Division of Child Hygiene, State Board of Health, Topeka, Kans.

"Psychiatry, with Special Reference to Children of School Age," Passed Assistant Surgeon Walter L. Treadway, U. S. Public Health Service, Washington, D. C.

"Alias Hygiene," Thomas Storey, Interdepartmental Social Hygiene Board, Washington, D. C.

"Oral Hygiene," Major Harry B. Butler, U. S. Army, Washington, D. C.

Discussion.

Thursday, November 13, 2:00 p. m.

BUSINESS SESSION

Reports of Committees.

Announcements.

Thursday, November 13, 2:00 p. m.

RURAL PROBLEMS

Joint Session with the Section on Public Health of the Southern Medical Association, First Presbyterian Church.

W. S. Rankin, Secretary, State Board of Health, Raleigh, N. C., Chairman.

"Rural, Dental and Surgical Clinics," George M. Cooper, Director, Bureau Medical Inspection of Schools, North Carolina State Board of Health, Raleigh, N. C.

Discussion opened by Taliaferro Clark, U. S. Public Health Service, Washington, D. C.; Julius C. Levy, State Board of Health, Newark, N. J.

"Opportunities of the Rural Public Health Nurse for Developing Child Hygiene," Mrs. Ruth A. Dodd, South Carolina State Board of Health, Columbia, S. C.

Discussion opened by Mrs. Kate Brew Vaughn, North Carolina State Board of Health, Raleigh, N. C.; A. T. McCormack, Secretary, State Board of Health, Bowling Green, Ky.

"The Minnesota Rural Clinic," E. J. Huenekens, Minneapolis, Minn.

Discussion opened by Richard M. Smith, Boston, Mass.; Anna E. Rude, Children's Bureau, Washington, D. C.; J. P. Sedgwick, Minneapolis, Minn.; N. C. Pearce, Minneapolis, Minn.

1. R. R. Station, Asheville.
2. R. R. Station, Biltmore.
3. Pack Square.
4. Y. M. C. A.—General Headquarters.
5. Y. W. C. A.
6. Central Methodist Church.
7. First Presbyterian Church.
8. Auditorium.
9. Margo Terrace (Hotel).
10. Battery Park Hotel.
11. Swannanoa-Berkeley Hotel.
12. Langren Hotel.
13. The Manor.
14. The Grove Park Inn.

RAILROAD RATES

The United States Railroad Administration has favored Asheville with a special reduced round-trip rate. It is in effect from all over the South. No trouble this year about getting your round-trip ticket: get a regular Asheville round-trip ticket.

ALUMNI REUNIONS

The alumni dinners will be held on Tuesday, November 11, 6:00 to 8:00 p. m. A committee has been appointed having charge of the alumni reunions. Announcement will be made both from the general meeting on Tuesday morning and from the Sections Tuesday afternoon.

HOTELS

Special rates for Southern Medical Association procured by the sub-committee on Hotels of the General Committee.

Battery Park Hotel, Asheville
Room with bath
Room with bath, double
Room with bath, [illegible]
Room without bath
Room without bath, [illegible]
Grove Park Inn, Asheville
Room with bath
Room with bath, [illegible]
10.00 per day
Margo Terrace, Asheville
Room with bath
Room without bath
The Manor, Asheville
Room with bath, [illegible]
Room with bath, [illegible]
Room without bath
Room without bath, [illegible]
Langren Hotel, [illegible]
Room with bath
Room without bath
Swannanoa-Berkeley Hotel, [illegible]
Room with bath
Room
[illegible]
Room with bath
Room without bath, [illegible]
[illegible]
[illegible]
Asheville, [illegible]
[illegible]

EXHIBITS

Main Floor Y. M. C. A., 27 Haywood Street

The commercial exhibits, always a feature at our meetings, are up to the usual high standard this year. They are fewer in number owing to the lack of space. These exhibits are entertaining and instructive: every physician attending the meeting should spend some time each day with the exhibits. You will find the exhibitors courteous and anxious to answer any questions you may ask.

Here are the names of the exhibitors who have made reservations:

Abbott Laboratories, Chicago, Ill.
American Surgical Instrument Company, New York, N. Y.

American Surgical Specialty Company, Chicago, Ill.
D. Appleton & Co., New York, N. Y.
B. B. Culture Laboratory, Yonkers, N. Y.
Borden's Condensed Milk Company, New York, N. Y.
Geo. W. Brady & Co., Chicago, Ill.
Hanovia Chemical & Mfg. Company, Newark, N. J.
Horlick's Malted Milk Company, Racine, Wis.
Hynson, Westcott & Dunning, Baltimore, Md.
J. B. Lippincott Company, Philadelphia, Pa.

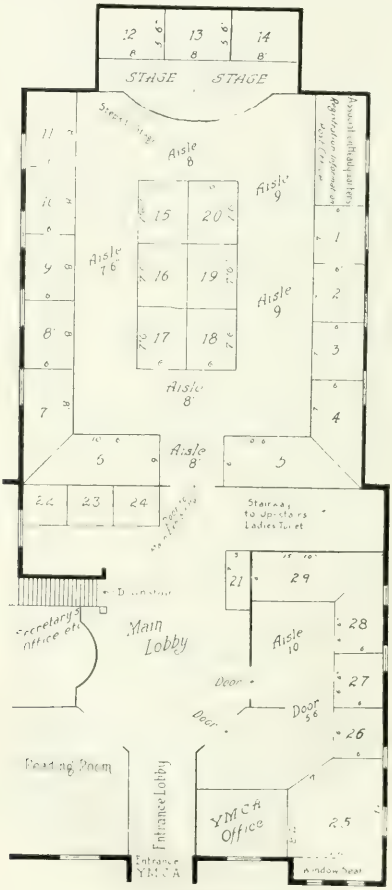

DIAGRAM OF EXHIBIT SPACE

Maltbie Chemical Company, Newark, N. J.
Mead Johnson & Co., Evansville, Ind.
Mellins Food Company, Boston, Mass.
H. A. Metz Laboratories, Inc., New York, N. Y.
C. V. Mosby Company, St. Louis, Mo.
S. J. Pridgen & Co., Atlanta, Ga.
W. F. Prior Company, New York, N. Y.
Radium Chemical Company, Pittsburg, Pa.
Radium Company of Colorado, Denver, Colo.
G. H. Sherman, Detroit, Mich.
Takamine Laboratory, New York, N. Y.
Taylor Instrument Companies, Rochester, N. Y.
Thompson-Plaster Company, Leesburg, Va.
Victor Electric Corporation, Chicago, Ill.

Southern Medical News

ALABAMA

The Elizabeth Coffee Memorial Hospital, Florence, was formally opened August 13. Dr. Luther T. Young, Atlanta, will be in charge of the clinic of the institution.

There has been established in Tuscaloosa in connection with the Bryce Hospital a home for the feeble-minded of the State, with an appropriation of $200,000. A great factor in securing this appropriation was the mental survey of the industrial schools of the State which was made recently by Dr. William D. Partlow, Tuscaloosa, Superintendent of the Alabama Insane Hospitals, and Dr. Thomas H. Haines, Field Agent of the National Committee on Mental Hygiene. The survey was a joint undertaking of the Alabama State Board of Health and the National Committee for Mental Hygiene.

Dr. Robbins Nettles, formerly of Andalusia, announces his removal to Mobile. Practice limited to pediatrics.

Dr. Harry M. Simpson, after fifteen months' foreign service in the Army, has located in his home city of Florence for the practice of general internal medicine and x-ray diagnosis. Before entering the service he was associated with Dr. Seale Harris, Birmingham.

Dr. J. D. Dowling, City and County Health Officer, Birmingham, reports that he is pleased with what is being accomplished in preventing an increase in the number of cases of diphtheria in the city. There has been a certain amount of alarm that there might be a serious epidemic.

Deaths

Dr. Thomas Noel White, Spring Garden, aged 80, died at his home August 23.

Dr. Felix B. Hunter, Falkville, aged 59, died at his home August 31.

Dr. S. L. Baird, Phoenix, aged 43, died at his home August 26 from pneumonia.

ARKANSAS

Plans are on foot to establish in Little Rock a State Clinic for the treatment of venereal diseases. It is proposed that the Woman's Reformatory and the Girls' Industrial School each give $2,500, and Dr. C. W. Garrison, State Health Officer, says that the State would pay $1.50 per day toward board and maintenance of the patients. Little Rock will contribute its share to the support of the Clinic.

7 Points—!!!!!!!

1—Standardized Drugs
2—Light Laboratories
3—Clean Apparatus
4—Expert Chemists
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6—Constant Supervision
7—Long Experience

These 7 points—each point keen—make up the 59-year-old warp and woof of our products—
QUALITY PRODUCTS

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CAREFUL CONSCIENTIOUS CHEMISTS

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P-M CO. PHARMACEUTICALS

be your choice whenever you want true drug action via the Gastro-Intestinal route.

Our products are true to name and represent the most potent and active formulae that careful selection, careful testing, careful manipulation and careful study of the composition of the different preparations allow.

They meet your requirements for a means of supplying medication to the particular patient; being easily administered because of their palatability and appearance. Our twenty years of endeavor have been directed toward the manufacture of the best in Pharmaceuticals of

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PITMAN-MOORE COMPANY

PHARMACEUTICAL & BIOLOGICAL CHEMISTS
INDIANAPOLIS U.S.A.

(Continued from page 654)

Dr. R. C. Foster, City Health Officer, Little Rock, says while there is fear of an outbreak of diphtheria in North Little Rock, there is little danger of an epidemic if the people will take precautions to prevent the disease from spreading. Only a few cases have been reported.

Dr. W. M. Majors, Paragould, who has been in the medical corps of the Army for the past eighteen months, has been discharged and resumed his practice.

Dr. J. R. Dale, Texarkana, recently was run down and seriously hurt by an auto delivery car. His collar bone was broken and he was otherwise painfully bruised.

Drs. H. C. Taylor and F. H. Clarkson, of the Rockefeller Foundation, recently visited Helena and made a health survey of the city and vicinity. They have completed health surveys of Monticello and Lake Village.

Dr. James Thames, Little Rock, who was recently appointed Health Officer, has taken over all the work in and near little Rock performed by the United States Public Health Service. Dr. Thames will have a corps of ten inspectors and assistants to help him in the work.

A mild outbreak of influenza has been reported at El Dorado. Three pneumonia cases followed the outbreak, and one death resulted.

Dr. R. A. Dyer, Epidemiologist, United States Public Health Service, has been detailed to the State Board of Health for several months to assist the State Health Officer in making a typhoid survey and investigations of other epidemic diseases. It has been reported to the State health office that twelve deaths have resulted from typhoid in Nettleton. Dr. Dyer has made tentative surveys at West Fork, Eureka Springs, Berryville and Harrison.

Dr. W. T. Polk, Blytheville, who spent the past three years in foreign service, has resumed his practice.

Dr. G. E. Tarkington announces his association with Dr. W. T. Wootton, Hot Springs, in the general practice of medicine.

Dr. Loyd Thompson, after several months' service in the Army, has been discharged and resumed his practice in Hot Springs, limited to syphilis, genito-urinary diseases and dermatology.

Dr. W. M. Owens has moved from Oneida to Jones, La.

DISTRICT OF COLUMBIA

Dr. Leo Brison Norris, Lieutenant, M.C., U. S. Navy, Washington, D. C., married Miss Marion Hungerford, Marshall, Md., September 16.

Dr. Louis Frederick Psotta, aged 51, died in the Emergency Hospital, Washington, August 9, from angina pectoris.

GEORGIA

Citizens of Athens propose to build a new hospital, to be known as the Athens General Hospital. The hospital will cost $300,000 and will occupy a ten-acre site.

After more than two years' service in the

(Continued on page 40)

Dr. William Krauss Dr. C. R. Stingily

DRS. KRAUSS & STINGILY

Physicians' Laboratory

DESOTO STATION, MEMPHIS, TENN.

SYNOPTIC FEE BILL

Smears	$2.00	Tissue	5.00
Swab cultures	$2.00 to $10.00	Dark field, for Spirochaete	$ 5.00
Malaria	2.00	Rabies, dog's head	10.00
Widal Test	1.50	Blood cultures,	$5.00 to $10.00
Routine urine	1.50	Chemical feces	$3.00 to $10.00
Feces, for parasites or ova	2.00	Spinal Wassermann	5.00
Wassermann test	5.00	Colloid Gold	5.00
Complement Fixation	5.00	Pleocytosis globulin	3.00
Chemical blood, each	5.00	Sanitary bacteriologic water analysis	10.00
Chemical urine, each constituent	5.00	Autogenous Vaccine	5.00

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"the patient on the table"

Not "good enough" but the best from every standpoint—alone assures that degree of "Catgut Safety" demanded when the patient on the table is "ONE OF MY OWN FAMILY."

Only on this peculiarly personal basis is

"Van Horn" Catgut

supplied to the profession.

Johnson & Johnson

VAN HORN and SAWTELL DEPARTMENT,

NEW BRUNSWICK, N. J.

(Continued from page 38)

Army, of which one year was spent in France and Germany, Dr. Richard C. Curtis, College Park, has received his discharge and will open a laboratory in Atlanta.

In September an extensive campaign was carried on in Atlanta to secure $150,000 for Grady Hospital, this to be used for the completion of the nurses' home and a sanitary diet kitchen.

Drs. Alfred F. White, Florilla, Henry W. Terrell, LaGrange, and Harold McDuffie, Atlanta, have been reappointed members of the State Board of Medical Examiners.

Dr. James J. Clark, formerly of Olean, N. Y., who has been in charge of x-ray work at Fort McPherson for the past several months, has opened offices at 20 Ponce de Leon Avenue, Atlanta.

Dr. W. L. Wood, Atlanta, has been elected Health Commissioner of Fulton County.

Dr. Robert C. Goolsby, Forsyth, September 2, married Miss Margaret Laney, Columbus.

Dr. C. G. Scruggs, Lenox, recently married Miss Annabelle Mills at Monticello, Fla.

Deaths

Dr. P. S. Clark, Darien, aged 62, died in a hospital in Savannah September 12, after an operation for appendicitis.

Dr. W. H. H. Roberts, Grovania, aged 80, died at his home August 28.

Dr. J. E. W. Smith, Waycross, aged 64, died from cerebral hemorrhage September 6.

Dr. L. P. Hammond, Rome, aged 63, died in St. Joseph's Hospital, Atlanta, the latter part of August.

KENTUCKY

The Muldraugh Hill Medical Society recently held a very interesting meeting in Elizabethtown. Dr. C. L. Sherman, Millwood, was elected President and Dr. F. G. Aud, Louisville, Secretary, for the coming year.

Dr. Frederick I. Yates, after a year's active foreign service, has resumed his practice at Covington.

Deaths

Martin F. Coomes, Louisville, aged 72, died in St. Joseph's Infirmary August 28 after a surgical operation.

Dr. W. A. Sympson, Glasgow Junction, aged 53, died at his home September 4 from chronic interstitial nephritis.

Dr. Curtis Austin, Bagdad, aged 59, died at his home August 15 from acute gastritis.

LOUISIANA

Influenza, its prevention and cure, will form a leading topic of discussion at the annual convention of the American Public Health Association, to be held in New Orleans October 27-30. It is expected that more than 2,500 delegates will attend this meeting.

The Belvedere Private Sanitarium, recently established in New Orleans, is being conducted as a modern and scientific institution. It has a ca-

(Continued on page 42)

PATHOLOGICAL DEPARTMENT

OF THE

South Highlands Infirmary

BIRMINGHAM, ALA.

Pathological, Bacteriological, Serological and Chemical Examinations

Wassermann's $5.00 *Tissue Diagnosis $5.00*

Other charges in proportion.

WALTER C. JONES, M.D., Director

Now, Brown—

Why don't you try it yourself?"

The rating of the

Alpine Sun Lamp

as a

THERAPEUTIC AID

is well established. The most progressive men are using this lamp with satisfaction and profit. It meets a variety of indications.

A booklet containing some of the evidence that has induced a favorable decision from competent judges will be sent you on request. Write for booklet No. 30.

HANOVIA CHEMICAL & MFG. COMPANY

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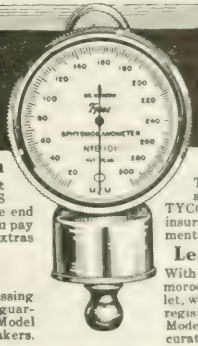


NINE MONTHS THEN IT'S YOURS

Easy Rental Purchase Plan

By our easy rental purchase plan, after a first payment of only $2.50 we will rent this TYCOS to you for nine months at $2.50 a month, at the end of which time it is your absolute property. You pay only the cash price—with no interest and no extras—and have

Nine Full Months To Pay

Just dignified credit. No red tape or embarassing questions. You take no risk. We absolutely guarantee this genuine Dr. Rogers' New 1919 Model TYCOS and it is also fully guaranteed by the makers.

Standard Of The World

There is only one standard of the world—reliable—dependable—accurate—and that is the TYCOS, which has been adopted and is used by all insurance companies, the United States Government and medical authorities.

Leather Case and Booklet Free

With each TYCOS we give you free a handsome morocco leather case and a 44-page instruction booklet, which tells exactly how to use it. The TYCOS registers both systolic and diastolic pressures. Modern scientific diagnosis demands the aid of an accurate instrument for determining blood pressure.

Dr. Rogers' Genuine 1919 Model Self-verifying Sphygmomanometer

Cash Price Everywhere $25 But we will send it to you upon receipt of only $2.50 and allow you ten days free trial. If then you wish to keep it, simply pay the balance, $22.50 in nine small monthly payments of $2.50, and the instrument is yours. You cannot buy it for less anywhere else. You cannot buy it on such easy terms except by the Aloe Easy Rental Purchase Plan.

Ten Days Free Trial Just enclose first month's rent—$2.50 and we will ship the TYCOS at once. Try it thoroughly for ten days. Give it every test you can. If you are willing to part with it, send it back at our expense and get your money. If pleased, then pay only $2.50 a month for 9 months. SEND FOR YOUR TYCOS TODAY. Don't NOW. Let it PROVE it's usefulness to you. It is so easy to own that you'll never miss the money.

A. S. ALOE COMPANY, 561 Olive Street, ST. LOUIS, MO.

(Continued from page 40)

pacity of fifty private rooms and has an efficient nursing and medical corps.

Deaths

Dr. J. T. Wolfe, New Orleans, aged 42, died September 5.

Dr J. M. Elliott, New Orleans, aged 59, died at his home August 30.

Dr. Edward L. McGehee, Hammond, aged 67, died August 13.

MARYLAND

Dr. J. M. T. Finney has been made Chairman in the $750,000 drive by the Union Protestant Infirmary for the erection of a new hospital at Guilford.

Mrs. Caroline P. McCready, in memory of her husband, who was killed at a railroad crossing recently near Crisfield, has given a hospital to Crisfield.

Dr. John D. Blake, Health Commissioner, has recommended the purchase of the Northwestern General Hospital for use in case of epidemics of influenza and other minor infectious diseases.

Dr. E. B. Friedenwald has received his discharge from the Army and returned to Baltimore to resume his practice.

Dr. James A. Ward, Baltimore, on September 8 married Miss Linda Belle Heacock, Birmingham, Ala.

Deaths

Dr. J. C. Cooper, Baltimore, aged 52, died August 20 at Crisfield from acute gastritis.

Dr. J. R. Hooper, Baltimore, aged 78, died at the home of his daughter in Round Bay September 19.

MISSISSIPPI

Dr. W. M. Murry, formerly of Dumas, has moved to Ripley to practice his profession.

MISSOURI

The State Board of Health is endeavoring to enroll at least 100 physicians in the State who will be willing to serve under the Board's direction in case a serious epidemic of influenza should occur this winter. If the physicians are called to service they will receive $200 a month and an additional $4.00 a day for subsistence, and railroad fare will be paid. They will be sent to communities where there is a shortage of physicians.

A report showing the extensive work of the Municipal Visiting Nurses among the poor families of St. Louis has been submitted to the Hospital Commissioner by the Superintendent of Municipal Visiting Nurses. The report shows that during the year ending March 31, 1919, a total of 20,366 tubercular persons were visited in their homes by nurses.

Following the regular meeting of the Shelby County Medical Society in Shelbina the latter part of September, a banquet was given in honor

(Continued on page 44)

Laboratories of Drs. Bunce and Landham

ATLANTA, GEORGIA

Allen H. Bunce, A.B., M.D.
Director Pathological Dept.

Jackson W. Landham, M.D.
Director X-Ray Dept.

The laboratory of clinical pathology is well equipped for making pathological, bacteriological, serological and chemical examinations for physicians and surgeons. All specimens reported upon the same day received where practicable.

The X-Ray laboratory is equipped with a modern 10 Kilowatt Snook Transformer and a Single Unit Victor Table adaptable to both vertical and horizontal fluoroscopy and radiography. Both diagnostic and treatment work is done in this department personally by Dr. Landham, who was formerly associated with Dr. W. F. Manges, in Roentgenology, at the Jefferson Medical College and Hospital.

Fee lists and containers for pathological specimens and information in reference to X-Ray work furnished upon request.

Address

DRS. BUNCE AND LANDHAM, 821-826 Healey Bldg., Atlanta, Georgia

Sustaining, Invigorating, Partially Predigested

Borden's Malted Milk offers the tissue-building and invigorating nutrition of clean, wholesome milk and sustaining cereals in a partially predigested form.

These invaluable ingredients are combined by an exclusive process of preparation whereby malt ferments acting on the proteins convert them to partial peptones.

This partial predigestion makes Borden's Malted Milk unequalled as a tonic-food for convalescents, dyspeptics and aged people. It supplies maximum nourishment with a minimum strain on the gastro-intestinal tract.

Samples, analysis and literature on request.

BORDEN'S CONDENSED MILK COMPANY
Established 1857
Borden Building New York

Borden's
THE IMPROVED
MALTED MILK

All Food Cells Exploded

Puffed Grains are Prof. A. P. Anderson's scientific foods.

The grains are sealed in guns, then rolled for an hour in 550 degrees of heat. Thus the moisture in each food cell is changed to steam.

Then the guns are shot. Over 100 million steam explosions occur in every kernel. All the food cells are blasted. The grains are puffed to bubbles eight times normal size.

The result is whole wheat, whole rice and corn hearts supremely fitted for digestion.

The Quaker Oats Company
Chicago

Puffed Wheat
Puffed Rice
Corn Puffs

A. TRUMPER, M.D., Director

Clinical Laboratory

Bell Building
MONTGOMERY, ALABAMA

10 YRS. EXCLUSIVE
LABORATORY EXPERIENCE

BACTERIOLOGICAL PATHOLOGICAL
CHEMICAL SEROLOGICAL

Formerly Bacteriologist

Alabama Board of Health

U. S. Public Health Service
Philadelphia Bd. of Health

ALL SPECIMENS EXAMINED SAME DAY RECEIVED

REPORTS WIRED WITHOUT CHARGE

SEND ALL SPECIMENS SPECIAL DELIVERY POSTAGE REFUNDED

DIET IN THE WINTER DISEASES

Most of the common affections at this time of the year—influenza, pneumonia, diphtheria, tonsilitis and other contagions—are characterized by fever, marked weakness and disinclination to take food. (To maintain nutrition helps withstand the disease.)

DENNOSF OOD
The Whole Wheat Milk Modifier

with proper amount of milk furnishes a bland concentrated liquid diet highly suitable for feeding such invalids.

Dennos surchanges the milk with rich assimilable carbohydrates essential to a fever diet. It reduces the curd to fine, flocculent particles, non-irritating and readily assimilable. May be made a valuable aid in re-establishing normal nutrition when vomiting, nausea or diarrhea is present.

Samples of Dennos sent on request

Dennos Products Co.
2025 Elston Ave., Chicago, Ill.

(Continued from page 42)

of the members who served in the Army.

The establishment of a new location for the incipient tuberculosis colony, now located, together with the advanced colony, at Robert Koch Hospital, is urgently requested and recommended by the Hospital Commissioner, Dr. Cleveland H. Shutt. Dr. Shutt states that the separation of the two colonies is a matter of utmost importance because the death rate is high in the advanced tuberculosis colony, which scares many patients from entering the incipient colony at the Hospital.

Dr. Albert Florian, recently discharged from the Army service, has resumed his practice at Kansas City.

More than 100 cases of typhoid fever has been reported in Lafayette County.

Physicians from the counties of Clinton, Caldwell, Davies, Ray, Platte and Clay met in Cameron some time in August and organized the Twelfth Councilor District Medical Association. Officers elected were Dr. John D. Musgrave, Excelsior Springs, President; Dr. John J. Gaines, Excelsior Springs, Secretary.

Dr. O. S. Wilfley, formerly of Webb City, has accepted the position of Examining Medical Officer for the Federal Board of Vocational Education for District No. 9 with headquarters at St. Louis. He has accepted a commission in the United States Public Health Service, under which service the vocational education is being directed.

Deaths

Dr. T. C. Boulware, Butler, aged 78, died at his home September 6.

Dr. Andrew W. Moore, Fayette, aged 74, died at his home August 18 from chronic nephritis.

NORTH CAROLINA

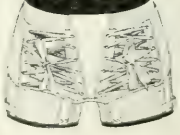
Dr. Thompson Frazer, after several months' service in the Army, has been discharged and resumed his practice at Asheville.

(Continued on page 46)

DOCTOR: Write or Wire
AMBULATORY PNUEMATIC SPLINT MFG. CO.
ATLAS BLOCK, CHICAGO

RESULTS COUNT FRACTURES

Hip, Thigh or Leg Set. Splints Rented Ready to Apply. Your Treatment of Patients, In or Out of Bed, Secures Good Bone Union. Comfort, Strength and Health in the Least Time with the Ambulatory Pneumatic Splint. Specify it and our "Ambumatic" Washable Abdominal Supporters.



Adjustable for uplift or Binder, to any part of abdomen. Once used always prescribed.

Send for Order Blanks, Sample Material, Literature, Prices, etc.

THE RELIABLE SOLUTION TO THE SAFE MILK PROBLEM AS IT AFFECTS INFANTS, NURSING MOTHERS AND CONVALESCENTS

"Horlick's"

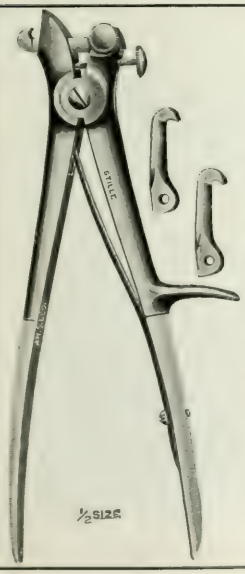
THE ORIGINAL

Malted Milk

Produced under the strictest hygienic conditions from clean, fresh milk and choice malted cereals, with the vitamine content intact, and being supplied in sterilized, hermetically sealed glass jars, is protected indefinitely from contamination and deterioration in any climate. And so affords at all times an adequate, safe and convenient food for infants, nursing mothers, invalids and convalescents.

Avoid Inferior Imitations—Samples Upon Request

Horlick's Malted Milk Co., Racine, Wisconsin



WHILE we manufacture many of our instruments, we have elected to illustrate one made by the Stille-Werner Company, of Stockholm, Sweden, which firm we represent in this country. Their instruments are without equal and are fully guaranteed by us and them. We carry all styles of bone cutting and laminectomy forceps in stock and welcome inquiries regarding any pattern.

We will exhibit at the Southern Medical Association Convention, at Asheville, N. C., November 10-13, 1919, space No. 21, and issue a cordial invitation to the profession to inspect our display.

American Surgical Instrument Co.

327 SECOND AVENUE

NEW YORK

Many Times Tissue Work and Many Other Bacteriologic Examinations are Useless

—if you don't have the examination and report of findings performed and mailed promptly.

I know how to render you this service, because I have superior facilities and use only the most modern, recognized Army methods.

These methods also assure you that a reasonable fee will be charged.

For instance,—an ordinary examination of tissue specimen is made, findings compiled and mailed post-haste upon day of receipt. Or, when requested, I can report by telegram or telephone that same day.

Partial Fee List

TISSUE	$5.00
WASSERMANN TEST	5.00
GONOCOCCUS COMP. FIX. TEST	5.00

All other Bacteriologic service performed in proportion.

My services and laboratory facilities are always at your disposal upon command.

DR. JAMES S. FLEMING

Pathological Laboratories
Exchange Building,
MEMPHIS, TENN.

(Continued from page 44)

The Crowell Urological Clinic, Charlotte, announces that it has added to its staff Drs. L. C. Todd and Hamilton W. McKay.

The Lawrence Hospital, Winston-Salem, was opened September 1. The institution is in charge of Dr. Charles S. Lawrence and Dr. G. Carlyle Cooke.

Dr. Frank M. Register, Jackson, has resigned his position as Health Officer of Northampton County to accept a position as Chief of the Bureau of Epidemiology of the State Board of Health at Raleigh.

Dr. S. E. Buchanan, Concord, has been elected Full-Time Health Officer of Cabarrus County.

Dr. Wilbur B. Robertson, Tarboro, has resigned his position as Health Officer of Edgecombe County.

Deaths

Dr. Hiram T. Chapin, Pittsboro, aged 61, died at his home August 31 from cerebral hemorrhage.

OKLAHOMA

The second annual State Public Health Conference met in Oklahoma City the latter part of September. At this meeting plans were formulated to improve health conditions.

In the campaign to bring social diseases under control in Oklahoma, the U. S. Public Health Service operating under Dr. J. C. Mahr, State Director, has established a number of free treatment clinics. The clinics are located at Oklahoma City, El Reno, Enid, Chickasha, Ardmore, Hugo, Holdenville, Shawnee, Muskogee, Miami, Picher, Tulsa, Bartlesville. Clinics at McAlester and Ponca City are expected to be opened soon.

Typhoid fever was on the decrease in Tulsa during the month of September, according to the monthly report of Dr. J. G. Gilbert, City Superintendent of Health.

Dr. Franklyn P. Davis, on September 25, married Miss Athie Eliza Sale, both of Enid.

(Continued on page 48)

BURDICK
DEEP THERAPY
LAMP
Scientific—Efficient
THE NEW
Daylight Therapy
Distinctive Features:
High Potential Ray from Special 3000 C.P. Lamp
Scientific Diffusion of Light Rays
Scientific Ventilation
Friction Joints give Universal Adjustment
Operable on ceiling counter-balance, wall bracket or floor stand

Write for illustrated brochure
Dealers Wanted
BURDICK CABINET COMPANY
250 Atlantic Ave. Milton, Wis.

MERCURIAL (Grey) OIL - - - - - - - - $1.50

One of the New and Nonofficial Remedies. A valuable adjunct in the treatment of syphilis. Put up in syringes, each syringe containing 10 doses. Credit of .50c upon return of syringe.

Pamphlet sent upon request.

WASSERMANN TEST (Blood or Spinal Fluid) - - - - - $5.00

We do the classical test. Any of the various modifications will be made upon request, without additional charge.

Sterile containers, with needle, gratis upon request.

EXAMINATION OF PATHOLOGICAL TISSUE - - - $5.00

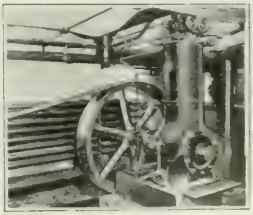
Accurate histological descriptions and diagnoses of tissues removed at operation should be part of the clinical record of all patients.

Sterile containers for the collection of all specimens sent gratis upon request.

Routine laboratory examinations made at reasonable prices. Send for fee list.

National Pathological Laboratories, Inc.

CHICAGO	ST. LOUIS	NEW YORK	BROOKLYN
5 South Wabash Avenue	University Club Bldg.	18 East 41st Street	Chamber of Commerce Building



Keeping Qualities *of* Biologicals Depend on Proper Storage

WE HAVE *The* LARGEST *and* MOST PERFECT BIOLOGICAL STORAGE IN THE SOUTH.

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COMPLETE TWENTY-FOUR HOURS A DAY SERVICE

Your orders are Filled at any time at *The* Drug or Night Records

VAN ANTWERP DRUG CORPORATION, MOBILE, ALA.

Order of Us—We Make Only Reliable Products

UNUSUAL SERVICE

Southern physicians are offered unusual opportunities for accurate diagnostic work by the ADAMS GRADWOHL LABORATORIES OF NEW ORLEANS.

We make **Three** Tests for Syphilis on every Blood submitted for **One** Price, **Five Dollars**; these tests are the

Wassermann
Hecht Gradwohl
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These tests not only **check** the Wassermann: they add Positives which the Wassermann fails to catch.

YOU CANNOT AFFORD TO IGNORE OUR SERVICE IF YOU ARE INTERESTED IN THE LABORATORY DIAGNOSIS OF DISEASE.

Pasteur Treatment by Mail

Wire age patient, location of bites: we will send forward at once full course of treatment, needles, syringe, directions. Treat your patient at home and thereby economize on his time and money.

VACCINES, BLOOD CHEMICAL ANALYSES, ETC.

Write for Free Containers

Adams Gradwohl Laboratories

705-707 Maison Blanche Annex

NEW ORLEANS, LA.

Geo. B. Adams, M.D., Director

(Continued from page 46)

Deaths

Dr. B. T. Landers, Oklahoma City, aged 75, died at his home August 29.

SOUTH CAROLINA

Deaths

William T. Breeland, Allendale, aged 87, died at the home of his daughter in Laurens August 20.

Dr. Walter Cheyne, Sumter, aged 51, died at his home August 13 from cerebral hemorrhage.

TENNESSEE

The East Tennessee Medical Association held its meeting in Morristown October 16-17.

Deaths

Dr. Dabney Minor, Cleveland, aged 32, was found dead in his office September 22.

Dr. Didymus Thomas, Oldtown, aged 50, died at his home September 13.

Dr. James A. Dickey, Bristol, aged 69, died at his home September 4 from cerebral hemorrhage.

TEXAS

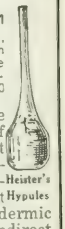
Dr. Alex P. Harrison, formerly of Corsicana, has assumed his new duties in Austin as Director of the Bureau of Rural Sanitation of the State Board of Health, succeeding Dr. P. W. Covington, who has been transferred to Kentucky.

(Continued on page 50)

Medication for Hypodermic Treatment

Sterile, Accurate, Efficient. In Hypule Form

Sodium Cacodylate, Mercury Biniodide, Mercury Salicylate, Iron Citrate, Iron Citrate and Sodium Arsenate, Emetine Hydrochloride, Fisher's Solution (concentrated), Gray Oil, Novocain and 80 other formulae.



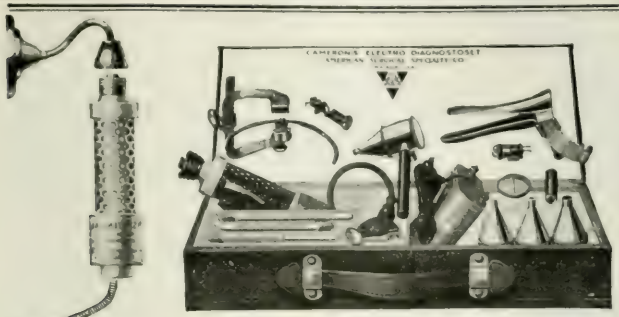
These hypules not only insure full potency and exact dosage of the drug to be administered, but they afford the physician an aseptic, and readily assimilated solution or suspension. For treatment in serious and malignant diseases, hypodermic medication is far superior to the indirect methods of absorption through the alimentary tract. The use of **HEISTER'S HYPULES** places this form of medication on a scientific basis, relieving the practitioner of all anxiety as to the quantity or character of the hypodermic injection which he administers.

From the Laboratory of

LOUIS HEISTER

Manufacturers of Physician's Pharmaceutical Specialties in Hypule Form

List on Application **CINCINNATI, OHIO, U. S. A.**



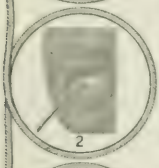
Improved Instrumentation—Perfect Illumination

Cameron's Electro-Diagnostoset

For the Office, Hospital or Home

Here, Doctor, is a combination of specially designed instruments that will furnish automatic controlled perfect illumination for practically all critical examinations, treatments and operations. These instruments are original in design and represent the latest development of [illegible] special experience. They are simple and foolproof, requiring no training or trained assistants. They supplement [illegible] an abundant white light which is free from heat, thus doing away with the need for and annoyance of [illegible] and indirect illumination. They are [illegible] and may be used anywhere [illegible] SAFE, SANITARY, SIMPLE, DURABLE and [illegible]

1 THE DIAGNOSTOLITE [illegible] works entirely [illegible] a head [illegible] for [illegible] [illegible]



2 THE RIGHT ANGLE DENTAL LAMP [illegible] for [illegible] [illegible] the [illegible] [illegible] [illegible]

WASSERMANN TEST (With three antigens) $5.00
Autogenous Vaccines (Especially recommended in Furunculosis) 5.00
Widal for Typhoid and Para-typhoid 3.00
Malaria 2.00
Anti-sheep Ambiceptor 10 CC 5.00
Cholesterinized Antigen 15 CC 5.00
Containers Free. Send for complete fee list.

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Twenty-two months service in army base laboratories in U. S. and France

LAURENCE EVERHART

Physicians', Surgeons' and Hospital Supplies

Hurt Building Lobby, Atlanta, Ga.

(Continued from page 48)

Dr. Oscar Davis, Assistant State Health Officer, recently went to Corpus Christi to relieve Dr. C. W. Goddard, State Health Officer, who has been on duty in the storm-stricken section.

How to prevent disease, how to treat disease, and to decrease the death rate was the theme of discussion of members of the District Medical Society which includes Medina, Uvalde, Maverick, Valverde, Edwards, Kinney, Real and Zavala Counties, at a meeting recently held in Eagle Pass.

Several cases of influenza have been reported in San Antonio and an epidemic of the disease is feared.

Dr. C. W. Goddard, State Health Officer, has announced that three counties—Tarrant, Bell and Wichita—have entered into a contract with the State Board of Health for a County Board of Health with a whole-time county health officer.

Dr. Frank P. Smith, Waxahachie, has been appointed Field Director in the organization of the Bureau of Rural Sanitation of the State Board of Health, succeeding Dr. A. P. Harrison, who has been appointed State Director.

Col. Frank W. Weed has returned from overseas, where he was on the staff of the Chief Surgeon of the A. E. F., and has taken up duties as District Surgeon in El Paso. He succeeds Col. James S. Wilson, who has been ordered to report for duty at the port of embarkation at Hoboken, N. J.

Dr. H. T. Hayes, formerly with the John Sealy

(Continued on page 52)

Marshall Field Annex Building
25 E. Washington St.,
Chicago, Ill.

ESTABLISHED 1904

Our names and reputations stand back of our work.

Chicago Laboratory

RALPH W. WEBSTER, M.D., Ph.D., Chemical Dept.
THOMAS L. DAGG, M.D., Pathological Dept.
C. CHURCHILL CROY, M.D., Bacteriological Dept.

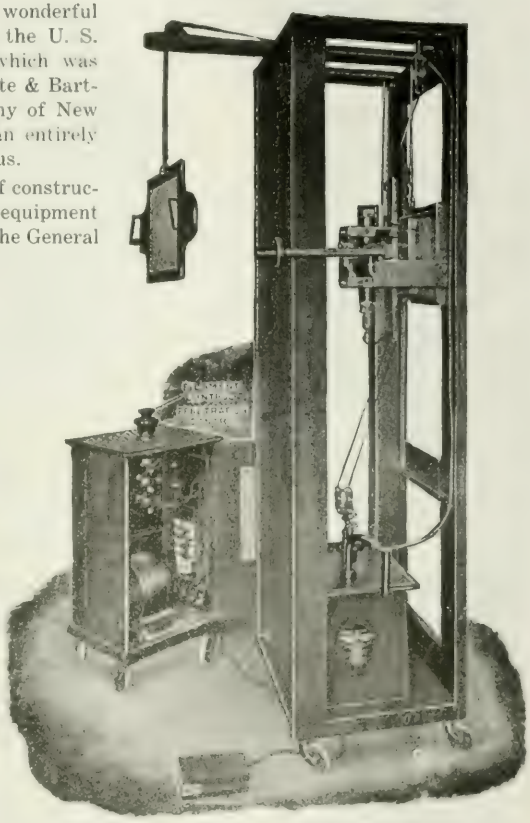
FOR the protection of your patient use a laboratory whose personnel and equipment are beyond question.

Containers for collecting all specimens will be sent gratis upon request.

Write for Fee Table if you have not received one.

AS the result of the wonderful success attained by the U. S. ARMY BEDSIDE which was made SOLELY by the Waite & Bartlett Manufacturing Company of New York, we have developed an entirely new line of X-Ray apparatus.

Owing to the simplicity of construction, the cost of a complete equipment is now within the reach of the General Practitioner.



The following facts should appeal to him:

First—No special wiring service is required, the ordinary house lighting being sufficient.

Second—Low initial cost of equipment.

Third—No overhead wiring or installation charges.

Fourth—Absolutely nothing to get out of order.

Fifth—The equipment will do everything except quick gastric radiography and deep X-Ray therapy. As for bone work and fluoroscopy, it will do absolutely as good work as can be done with the largest X-Ray machine made.

There is no longer any excuse for the General Practitioner not having an X-Ray equipment that will take care of the ordinary fracture cases that come under his observation.

Do not hesitate on account of the low price of this equipment. This company has been in business since 1879 and has not had to be reorganized since it was started.

WAITE & BARTLETT MFG. CO.

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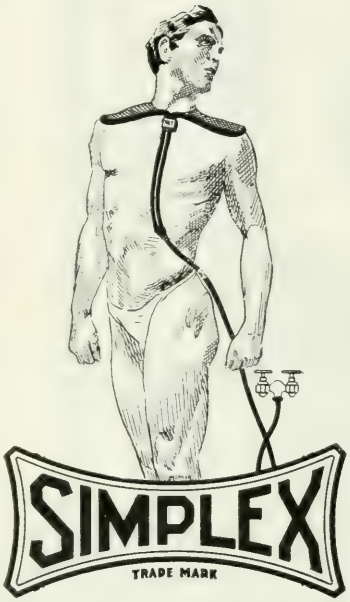
Philadelphia, Pa., Representative: Mr. HARRY F. PRESSEY, Room 201, Real Estate Trust Bldg.
Los Angeles, Cal., Representative: Mr. GEORGE GAGEN, 510 Marsh Strong Bldg.

A New and Improved Shower Bath



The Simplex Gives

1. A shower bath in four minutes.
2. In your own tub.
3. No curtains needed.
4. Will not splash the floor.
5. Will not wet the hair.
6. Substantially made, best quality rubber.
7. Absolutely guaranteed.
8. 30% discount allowed physicians, nurses and sanitariums.
9. Money back if not perfectly satisfied.
10. Price $5.00 less 30%, $3.50 net.
11. Address the Simplex Shower Bath Co., Mansfield, Ohio, and we will mail by parcel post prepaid.
12. Prescribe them when Hydrotherapy is indicated.

A word about influenza. Medical authorities agree that resisting power is THE preventative of the FLU. Nothing will build up resisting power as quickly as a cold shower bath.

We will consider State Agency in Southern States with responsible persons

The Simplex Shower Bath Company

7 BOWERS BLOCK MANSFIELD, OHIO

(Continued from page 50)

Hospital of Galveston, has taken charge of the municipal hospital at Houston.

The State Health Officer has called upon the medical profession for 100 volunteer physicians who are willing to serve as acting assistant surgeons of the United States Public Health Service, co-operating with the State Board of Health, to prevent the recurrence of an epidemic of influenza.

Dr. R. L. Dinwiddie, San Antonio, has been appointed Assistant City Health Officer.

Attendance at the State Medical College, Galveston, this year will be larger than ever before in its history, according to Dean W. S. Carter.

Dr. M. E. Parker has resigned his position with the United States Public Health Service at Laredo and returned to Austin as State Registrar of Vital Statistics.

Plans are on foot for a new hospital at Wichita Falls. Members of the committee appointed by the Wichita Falls Medical Association to take charge of arrangements for securing the hospital are Drs. Q. B. Lee, Everett Jones, L. Mackechney, J. E. Daniels and A. D. Pattillo.

Dr. Rose R. May, Whitewright, married Miss Pauline Lenox, Pendleton, Ark., at Pine Bluff, August 27.

Deaths

Dr. J. H. Reuss, Cuero, aged 52, died suddenly in the Rice Hotel, Houston, September 17, from an acute attack of indigestion.

Dr. T. A. Pope, Cameron, aged 73, died at his home October 6.

Dr. F. M. Smith, Refugio, aged 44, died in the Victoria Hospital, September 6 from cerebral abscess.

Dr. Edwin Mussina, Waco, aged 78, died September 29.

Dr. S. W. Rimmer, San Saba, aged 55, died at his home recently from angina pectoris.

Dr. C. D. Ricker, Captain, M.C., U. S. Army, Fabens, aged 43, died in the Walter Reed General Hospital, Tacoma Park, D. C., August 4 from myocarditis.

Dr. A. A. Ledbetter, Hallettsville, aged 75, died at his home recently, following an illness of several weeks.

Dr. W. B. Cowan, Dialville, aged 47, died recently in a sanitarium at Jacksonville.

Dr. J. V. Wright, Dallas, aged 33, died recently

(Continued on page 54)

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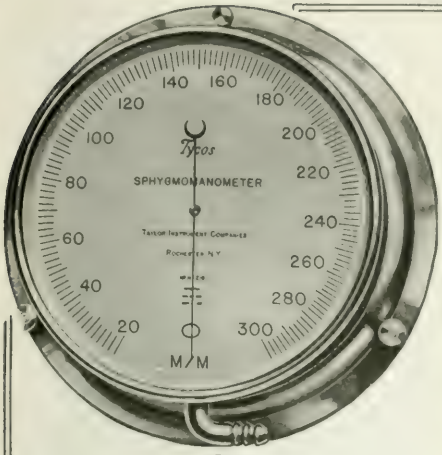

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Katherine L. Storm, M. D. 1541 Diamond Street PHILADELPHIA

(Continued from page 52)

at a sanatorium in Dallas, following an operation for appendicitis.

Dr. W. R. Blalock, Dallas, aged 70, died recently at his home.

VIRGINIA

Dr. Southgate Leigh, Norfolk, has been elected Chief Surgeon of the Virginia Railway Company.

The Virginia Tuberculosis Association has placed at the disposal of the State Board of Health, for the purpose of combating influenza, if it should appear in Virginia this year, and for the purpose of preventing a recurrence of that affliction, its entire staff of trained workers.

A campaign is under way to raise $60,000 for the erection of a new tuberculosis sanatorium in Danville.

Dr. G. W. Schenck, Norfolk, after several months' foreign service, has resumed his practice.

The following physicians have been released from service and resumed practice at their respective homes: O. F. Blankingship, Richmond; W. E. Driver, Norfolk; Thomas L. Vorbrinck, Norfolk.

Dr. H. W. Blanton, Richmond, recently married Miss Alice Janet Wicker, Lockport, N. Y.

Deaths

Dr. J. E. Warriner, Richmond, aged 59, died August 29.

(Continued on page 56)

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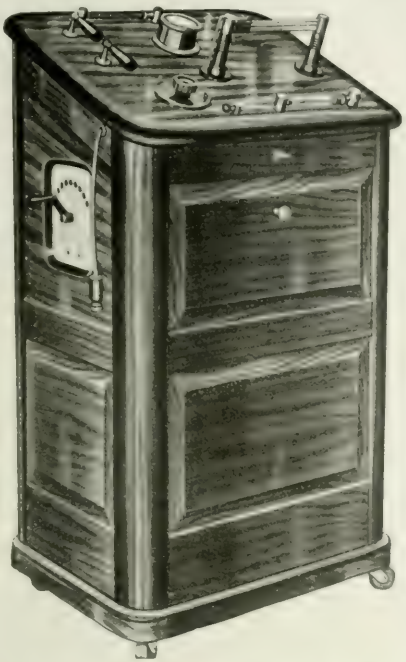

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(Continued from page 54)

Dr. W. L. Dalby, Bridgetown, aged 50, died at his home August 14 after a long illness of more than two years' duration from Bright's disease.

Dr. David Mott Robertson, Spont Spring, aged 61, died at his home August 17 from heart disease.

Dr. Charles T. Parrish, Portsmouth, aged 52, died at his home August 6 after several months' illness.

Dr. Wilton R. Stewart, White Post, aged 64, died at his home July 24 from cerebral hemorrhage.

Dr. T. E. Lowry, Goodes, aged 82, died at his home August 14.

Dr. J. A. Dickey, Bristol, aged 69, died at his home September 4 following a stroke of paralysis.

Dr. O. M. Smith, Palmyra, aged 51, died at his home September 16 from chronic disease of the stomach.

WEST VIRGINIA

The West Virginia Hospital Association will hold a meeting December 10-11 at Parkersburg.

Dr. J. A. Arbuckle, formerly of Elkins, has located in Charleston, W. Va., where he will limit his practice to diseases of the eye, ear, nose and throat.

Dr. John E. Cannaday has received his discharge from the Army and resumed his practice at Charleston.

Dr. J. M. Emmett, formerly of Richmond, Va., has moved to Huntington and is associated with Dr. R. J. Wilkinson.

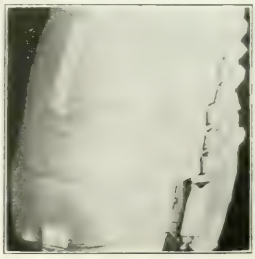
Deaths

Dr. Samuel E. Strother, Salem, aged 54, died at his home September 26 after a lingering illness of neuritis.

Dr. W. S. Stille, Parkersburg, aged 69, died at his home August 26 from pneumonia after an illness of three weeks.

Dr. James W. Good, Paden City, aged 61, was killed in a runaway accident near Sisterville September 7.

Dr. Anid Rose Girard, West Columbia, aged 55, died at his home September 23 from diabetes.



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5 c.c. contain 1.5 gm. of Hexamethylenamine U.S.P.
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Each ampoule, 5 c.c. contains 2 gm. (31 grains) Sodium Dimethylarsenate Cacodylate U.S.P. and 5 milligrammes (1-12 grain) Mercury Iodide U.S.P.
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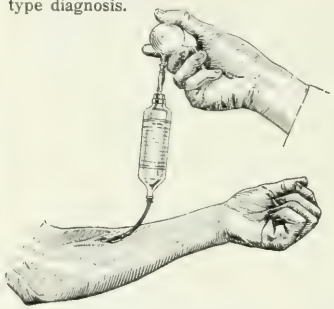

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may be used to advantage conjointly with Antipneumococcic Serum for treating that large number of lobar pneumonias in which the streptococcus is a complicating factor. This serum includes antibodies against streptococcus hemolyticus and other strains of streptococcus.

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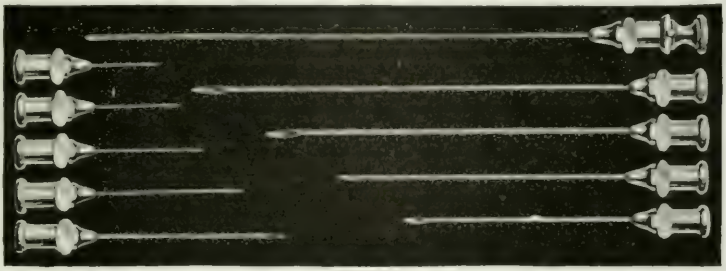

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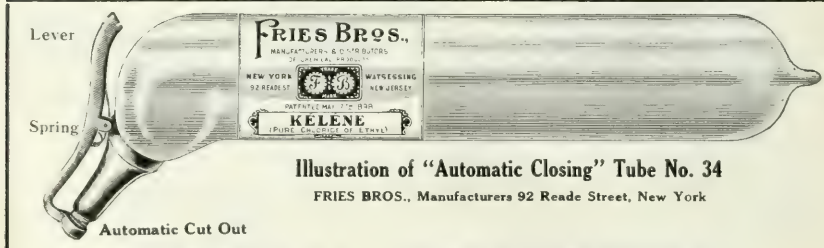

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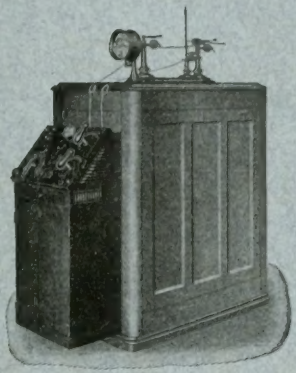

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